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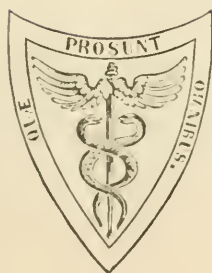
A DIGEST

OF THE

PROGRESS OF MEDICINE AND THE COLLATERAL
SCIENCES.

VOL. II.

1875.



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THE MONTHLY ABSTRACT OF MEDICAL SCIENCE.

VOL. II. No. 1.

(For List of Contents see last page.)

JANUARY, 1875.

Anatomy and Physiology.

On the Normal and Pathological Growth of the Long Bones.

In the *Archiv für Pathologische Anatomie und Physiologie*, Part I 1874, WEGNER defends the theories of John Hunter, Duhamel, Flourens, and others, from the attacks of Dr. J. Wolff. The first question which Dr. Wegner discusses is, Is there or is there not, in the developed tissues, an interstitial growth? He remarks, that it must be well understood that the question refers exclusively to the fully formed osseous tissue. No one has directly even observed such an interstitial growth. Ruge's endeavours to demonstrate such the aid of the microscope, merely show that the osseous somewhat as regards size and distance from each other, at 13847 s, but do not prove interstitial processes in the formed osseous at difficulty in applying the apposition theory to the growth of the lower jaw, arose from the circumstance that too little weight was attached to Hunter's postulated absorption upon the surface of the bones, and because nothing was seen of the processes of resorption. At present we know, from Lieberkühn's experiments with madder, that at the anterior edge of the coronoid process a continual resorption takes place in the growing animal, which is strikingly proved by Humphry's ingenious experiments (*Transactions of the Cambridge Philosophical Society*, vol. xiv.). Wegner found that the bones of dogs and rabbits fed for some time on phosphorus are best adapted for the purpose. The process of external resorption is best seen on the posterior surface of the lower end of the femur, where, in the rabbit, a resorption-surface is seen occupying the whole circumference immediately above the condyles.

Wegner repeated the well-known experiments of J. Hunter on eighty animals—dogs, rabbits, cats, and fowls. Dogs and cats are less adapted for this purpose, as suppuration usually supervenes after the operation, and also because the osseous substance in young individuals is too soft to hold the nails. The first series of experiments consisted in driving, at measured distances, several nails into the middle portion of the diaphysis of the tibia or femur, in such a manner that their surface was at the same level as that of the bone. After some months, the animals were killed and the intervals between the nails again measured, when in not one instance had the intervals changed in a measurable degree. In some few instances, in fowls, the distance had increased, but it had also diminished in some, owing no doubt to pathological changes.

The whole series of arguments advanced as indirectly supporting the theory of interstitial growth were to refute at the same time the apposition theory. Dr. Wegner thinks that an interstitial expansion of the developed osseous tissue does not take place, but that the absorption-processes are everywhere visible and demonstrable; that the change in the form of the lower jaw, the shifting of the bony projections, etc., are pathological formations (exostoses and pararticular callus); and finally, that the stability of the architecture of the bones is perfectly compatible with the apposition theory. Nothing can be indirectly advanced against it, and in favour of it the proofs are many and positive.

All the experiments, says the author, tend to show that the growth in length of the cylindrical bones proceeds from the epiphysial ends. In harmony with this are the results of feeding with phosphorus. Whilst during the feeding with madder the last deposited layer appears red at the intermediary cartilage, it becomes dense and compact during the feeding with phosphorus, instead of spongy; and if the phosphorus be omitted for a certain time, there immediately appears at the intermediate disk a layer of common spongy substance. If now the phosphorus feeding be recommenced, alternate layers of spongy and compact tissue will be found. Pathological observations also support the apposition and resorption theories; *e.g.*, the interrupted growth after premature synostosis of the cranial sutures, etc. Dr. Wegner concludes a long paper, which is only the first part of his intended communication, by affirming that his numerous experiments bear out to the fullest extent the observations of all authors except Dr. Wolff, to the effect that the growth of long bones is effected by way of apposition and resorption, and that the interstitial interpretation of Dr. Wolff is entirely erroneous.—*London Med. Record*, Nov. 4, 1874.



On the Different Excitability of Functionally Different Muscles.

If a limb, with its muscles and nerves, be separated from the body, and fixed in a certain way, it will take a position of equilibrium dependent on the mode of fixation, and the weight and elasticity of the tissues. It will move out of this position, if the common nerve-stem be stimulated at some part of its course, and so the muscles be put in action. The new position of equilibrium will then depend on the action and counteraction of opposed muscles.

It has generally been supposed that the change of position of the limb in such experiments is in the direction of the opposing muscles, which exceed the others in mass. If this were the case, then stimuli of different strength applied to the nerve-stem should be followed by motion of the limb in the same direction; the amplitude only of the motion varying with the strength of the stimulus.

M. ROLLETT has, however, convinced himself by numerous experiments (*Wiener Academische Anzeiger*), that this is not the case. He found that, with weak stimulation of the common nerve-stem, the limb was moved in quite a different direction from that obtained with strong stimulation.

This result was first established from three series of experiments (varying little from each other), made with the help of a stimulating apparatus, capable of fine gradations of strength. In a fourth series, the same result was had for motor nerves still in connection with the spinal cord, but removed from the influence of the brain and the sensitive nerves. In a fifth series, the fact was proved from a comparison of curves obtained simultaneously from antagonistic muscles, by a double myographion. Lastly, the fact was demonstrated, not with one determinate nerve-muscle apparatus only (muscles, in connection with their nerves, separated from the rest of the body), but with a series of different nerve-muscle apparatuses; for example, the motors of the foot forwards and upwards, and the motors of the foot backwards and downwards; the muscles which separate the toes, and those which bring them together; the muscles which draw the arm to the breast, and those which remove it; the muscles which bend the elbow, and those which straighten it. Of these muscles, the former-named antagonists had always the superiority with weaker stimulation of the common nerve-stem; the latter with stronger.

"It remains to point out," says M. Rollett, "how important it is, if evidence is had, that in limb-masses loosed from all central connections, certain muscles of determinate function typically respond to less intensities of the stimulus applied to their common nerve-stem, than other muscles of different function.

"This fact must be taken into account in judging of a series of phenomena in which hitherto we have tended to consider exclusively the connection of the nerves with the central organs; for example, the variety of reflex motions following the same local application of a peripheric stimulus, where the strength of the latter is gradually increased, and in which at first the flexor, and later the

extensor muscles have the inferiority; cramp after poisoning by strychnia, where the extensors prevail; several other remarkable forms of cramp; lastly, the mechanism of the co-ordinated movements (ordinated to an end), in general.

"As regards explanation of the phenomenon, it must first be stated, that the muscular apparatus of a limb, after *exclusion of the nerves*, no longer shows this different behaviour in response to weak and strong stimuli. On symmetrical direct excitation of antagonistic muscles deprived of nerve-influence, the change of position of the limb is always in the direction of the muscles preponderating in mass, if both groups of muscles be kept perfectly capable of action. Thus the explanation of our phenomenon is to be sought in the nerves. We cannot, however, straightway conclude that nerves attached to different muscles have a different excitability. This would only be permissible if all other possibilities of explanation were excluded, or if evidence of an excitability varying in the section of the nerve-stem could be obtained by other metrical experiments. The latter has not hitherto been practicable. On the other hand, we have to consider the different form and number of the connections of different muscles with their motor nerves, and weigh the evidence of the phenomenon of difference in excitability being referable to this anatomical basis."—*London Med. Record*, Oct. 21, 1874.

On the Effects of the Division of the Semicircular Canals of the Ear.

In Dr. Knapp's *Archives of Ophthalmology and Otology* (vol. iii. No. 2) Dr. LÖWENBERG, of Paris, gives the results of a series of researches on the effects of division of the semicircular canals. Flourens observed some peculiar derangements of motion in animals in which he had cut these canals, chiefly consisting in rotatory movements of the head and of the body. Lowenberg, in repeating these experiments, satisfied himself that accidental injury of portions of the brain cannot be considered as constituting a cause of these phenomena. In his experiments the knife was carried into the tympanum forwards and upwards. There immediately followed the characteristic movements of the head from right to left, and in addition the "*mouvements de manège*." The right ear seemed to have lost its bearing power. The "*mouvements de manège*" continued for several days, but diminished in intensity during sleep. If the animal were shaken or struck they increased in violence. On the third day the animal was killed. The dissection showed that while the right auditory nerve was almost completely divided, at the same time the semicircular canals of this side were partly crushed. This occurred in all cases. The substance of the brain was not injured; vomiting was not observed; derangements of motion only occurred when the injury was unilateral. He arrives at the following conclusions: 1. The derangements of motion are the result of irritation of the membranous canals and not of paralysis. 2. The irritation of the semicircular canals produces the convulsive movements reflectively, without participation of consciousness. Consciousness participates in these effects only in so far as it gives rise to renewed irritation by inciting the animal to voluntary movement. 3. The communication of reflex excitation from the nerves of the membranous semicircular canals to the motor nerves takes place in the thalamus.—*Lond. Med. Record*, Oct. 18, 1874.

Materia Medica and Therapeutics.

Digitalis as a Cardiac Medicine.

Prof. SÉE, Physician to the Hôpital de la Charité, Paris, in a recent clinical lecture (*La France Médicale*, No. 59) said: I have yet to speak of the most important and at the same time best known cardiac medicine—digitalis. Its

history appears completely exhausted, and it would seem as if there was nothing new to be added to the innumerable and recent inquiries of which it has been the object; however, all has not yet been said on this interesting subject. There are still gaps to fill up, obscure points to be made clear, and shades to be dispersed.

We unhesitatingly rank digitalis as a cardiac medicine; but we must acknowledge, notwithstanding, that it is very difficult to explain its mode of action. Two different methods have been followed in order to arrive at a solution of this difficult problem.

Formerly experiments were made upon man in a very simple manner. Homœopathic physicians first had recourse to this primitive proceeding. It was with chamomile that Hahnemann first of all experimented. He noted, after the ingestion of this apparently inoffensive drug, a sensation of strangling, headache, numbness of the lower limbs, hallucinations, and of confused and strange ideas. (The experimenter doubtless had no need to take chamomile to feel such effects.) If I tell you of these early experimental attempts, it is only to put you on your guard against falling into similar errors. Now it is in a similar manner that the effects of digitalis have been studied at an early period by two painstaking but visionary medical investigators, Sanders and Stadion. These are the results they arrived at. During the first few days which followed the ingestion of this drug, they noted nothing particular: towards the sixth day nausea and anorexia came on. From this time the trial *in anima medicorum* was, as one might easily conceive, completely upset. The subjects of the experiment were no longer able to eat; urea was no longer formed, and consequently all the results were falsified or tainted with error. Stadion and Sanders, from the twelfth day of their therapeutical experiment, fell into a state of extreme weakness, which it is not difficult to understand after so many days of involuntary fasting. One of them was even confident that he was in such a feeble state that he could no longer stand upright. But let us now leave these courageous but mistaken experimenters, whose history I have related in order to show you the imperfections of the method they had recourse to.

All individuals who make personal experiments, should place themselves in the same condition before and during the experiment; this is what has not been done. Some, however, have sheltered themselves from this cause of error. Voit has undertaken very remarkable researches on the effect of food and drugs, establishing in an extremely correct manner the state of the ingesta and ejecta before and during the experiment. Dr. Méjoïn has not only weighed the quantity but he has also indicated its composition. So that in taking, for example, 1500 grammes of food, we may know what amount of carbon and nitrogen this quantity represents. Voit calculated the amount excreted in order to arrive at making an accurate result, and it is in this way alone that really scientific conclusions can be established.

To resume. All the experiments with digitalis have been made in a most rough and imperfect manner; we have just seen in what they have been defective. The results of the first series are modified by the loss of appetite which inevitably occurs at the end of a few days after the ingestion of digitalis; as to the second, they are rendered erroneous by the absence of a previous establishment of an exact balance in the organic scale.

In presence of the difficulty of experimenting, the imperfection of the methods adopted, and the incorrectness of the results obtained, you may comprehend with what obstacles this study is surrounded. I will now try to put this chaos into a little order, and endeavour to throw some light upon it.

1. *Effects of digitalis upon the heart and upon the vessels.*—Besides the researches of Sanders and of Stadion, I should also note here the interesting monographs of Bordier, Legroux, and of Lelion, as among the most important works in later years on this subject.

Sanders has said that when he took digitalis in small doses, he at first observed a marked acceleration of the pulse. The fundamental action of the drug, viz., slackening of the pulse, succeeded this initial effect; but, even during this stage of slow pulse, the slightest influence sufficed to accelerate it. When a large dose was taken the slackening appeared, he said, in three hours,

and attained its maximum in twenty-four hours; if the same dose was continued for five or six days, the pulse became small, irregular, and intermittent. If it is necessary to obtain slackening of the pulse at the cost of an acceleration of it, which continues for two or three days, we are warned that we are going wrong. But this initial acceleration has not fortunately been noticed by all observers, and in particular by the experimenters whose names we have previously mentioned. The latter have at the outset obtained a slackening of the pulse in a most clear manner.

What is the cause of this slackening? In order to explain this, an eminent physiologist has made experiments with an artificial circulating apparatus, in which the heart is represented by a hollow caoutchouc ball, tubes of the same material representing the vessels. With this undoubtedly ingenious, but assuredly imperfect, instrument, he has come to formulate a very curious law: "When the calibre of the drainage tubes becomes contracted, the caoutchouc bag can no longer empty itself except with extreme difficulty. Then if the heart experiences embarrassment in expelling the blood which it contains, it is necessary that there should be increase of pressure in the vessels, and reciprocally increase of the intra-vascular pressure produces the slackening of the pulse" (Marey). I limit myself to notice, without comment, this proposition in the terms which Professor Marey has issued as a formula, reserving liberty to return to this subject, which indeed furnishes matter for controversy.

Experiments upon Animals.—Let us now see the results of physiological experiment. It is necessary to make a choice of suitable animals for experimentation. Some resist poisons which kill men: others are violently affected by agents which have no effect upon us. With the exception of the cobayes, all the herbivora are but slightly affected by digitalis, and it is necessary to resort to large doses of it in order to produce any appreciable effects. Upon the carnivora, on the contrary, digitalis acts in a very marked manner.

Let us take into consideration the effects of a small dose of digitalis. I do not speak of digitaline, which varies in its actions according to the mode of its manufacture (Nativelle, Homolle et Quevenne): the powder of digitalis is the best preparation. If then a small quantity of a weak infusion of digitalis is injected into an animal, you will observe, almost immediately, a slackening of the pulse. Increase the dose (5 to 10 centigrammes of the solution) and you obtain quite a different effect; the heart begins to act rapidly (*va prendre le galop*). If you are desirous of producing this immediate acceleration, you have but to employ a large dose from the first. If you inject a decidedly poisonous dose, you stop the heart in a systole. So you see that, whatever way you employ digitalis, you will find yourself between two fires: on the one side, acceleration of the pulse, and, on the other, stoppage of the heart by excessive slackening.

The first action of digitalis exerts itself upon a special nervous apparatus, whilst the last affects the cardiac muscle itself. In this way may be explained the different modes of action of the drug according to the dose employed.

You have just seen the effects of digitalis on the slackening of the pulse; it remains now to study its action upon the vascular pressure. It is generally admitted that digitalis augments the pressure, but here it seems to me necessary to establish an important distinction: when digitalis is administered in therapeutic doses, slackening of the pulse and increase of the intra-vascular pressure proceed *pari passu*; but, if a very large dose is given, there is at first an increase of the pressure, and soon after a more or less considerable diminution of it. If, on the other hand, an animal is made to take a poisonous dose, the intra-vascular pressure is reduced one-fourth or one-third.

These singular effects of digitalis may be tabulated in the following synoptical form:—

I. Ordinary Therapeutic dose.

1. Slackening of the pulse.
2. Increase of the intra-vascular pressure.

II. *Large or frequently repeated doses.*

1. Quickening of the pulse, terminating in slackening.
2. Diminution of pressure, giving place to augmentation of the intra-vascular pressure.

III. *Poisoning dose.*

1. At the outset slackening of the heart, the muscular fibre of which is affected.

2. Continued diminution of vascular pressure.

Digitalis is a peculiar poison, which is distinguished from most others by its being cumulative; that is, when successive doses of it are given their effects accumulate. Very few drugs possess similar cumulative effects. The smallest doses, if repeated, may eventually produce the effects of the poison. I insist upon this point, for this marvellous and dangerous medicine can never be advantageously administered without a previous knowledge of these properties.

Finally, there is one more fact to which I believe it useful to call particular attention. I wish to speak of change in the contractile force of the heart, and in the quality of the pulse. Under the influence of digitalis, at the same time that the heart slackens, its beats become more energetic, and, perhaps, it may be even in consequence of this increase of force in the cardiac contractions, that there is elevation of the vascular pressure. On the other hand, the pulse becomes dicrotous, has a double beat, and if you look at a sphygmographic tracing of the radial artery of an individual under the influence of digitalis, you will find that it is on the descending line that there is the dicrotism. This descending line only rises as high as its point of departure every two or three pulsations; in a word, it does not perfect itself. There are two or three ventricular systoles which repeat themselves before the heart has succeeded in accomplishing a diastole. We sometimes find a pulse in man which is double or triple, in fact, polycrotous. We should pay great attention to this derangement in the rhythm of the pulse, for this latter phenomenon is very frequent: it is met with when digitalis is given in therapeutic doses, and when these relatively small doses are continued for a certain length of time. Inversely, you will see that digitalis will cause these same phenomena of arrhythmia, which depend upon disease of the heart, and which offer the most striking resemblance to those which digitalis itself gives rise to in a healthy individual, to disappear.—*Irish Hospital Gazette*, Oct. 1, 1874.

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Action of Quinia upon the Nervous System.

Herr HEUBACH, from experiments made in Prof. Binz's Pharmacological Institution at Bonn, in which the slightly alkaline amorphous muriate of quinia was injected in doses of about a twenty-fifth to one-fifth of a grain, arrived at the following conclusions: 1. With *small* doses the reflex excitability of the nervous system is not lowered but exalted. The animals (frogs) exhibited distinct phenomena of intoxication, but lived, and completely recovered from its influence in twenty-four hours. 2. With *large* doses the reflex excitability is in the first instance exalted, but subsequently diminished, the depression, however, being due to paralysis of the heart. Kölliker long ago called attention to the fact that paralysis of the heart abolishes reflex excitability, and Heubach has himself demonstrated the fact that, after the application of a ligature to the aorta, reflex excitability rapidly disappears. Hitzig has also shown in his just published essay on the Brain, that a due supply of blood is absolutely requisite for the conservation of the excitability of the central organs. 3. *Very large* doses not only affect the respiration and the activity of the heart, but quickly abolish all indications of vital activity, and consequently also of reflex excitability. The cause of death when large doses of quinia have been given is not, as generally supposed, direct poisoning of the heart, but primarily paralysis of the respiratory acts, and the heart is subsequently affected.—*Lancet*, Nov. 7.

Boracic Acid as an Antiseptic.

Prof. LISTER, at a late meeting of the Medico-Chirurgical Society of Edinburgh, made an oral communication (*Edin. Med. Journ.*, Sept. 1874) on a case of rodent ulcer, and a new antiseptic dressing suitable for such cases.

The disease involving a large extent of the cheek, both eyelids, both nostrils, a considerable portion of the upper lip and part of the lower one, it was impossible to cover the raw surface by a plastic operation. It was therefore of importance that efficient antiseptic means should be employed; for there is no more simple or more striking illustration of the value of this principle of treatment, than the entire absence of inflammatory disturbance around an open wound when putrefaction is really prevented from taking place in it, the "stimulus of necessity" of John Hunter being, in truth, simply the stimulus of putrefying substances, so that the danger which usually attends open wounds is entirely avoided by efficient antiseptic measures. But the antiseptic dressing usually employed, consisting of gauze impregnated with carbolic acid, and a layer of prepared oiled silk interposed to protect the raw surface from the irritation of the acid, would have been unsuitable here, because putrefaction would have spread from the mouth and nostrils beneath the "protective," which, while it excludes the irritation of carbolic acid, prevents in equal degree the penetration of its antiseptic virtue. In cases like the present, where causes of putrefaction cannot fail to gain access to some part of the wound, the antiseptic must be applied directly to the divided tissues, while at the same time it is desirable that it should be as little irritating as possible, so as not to interfere with cicatrization. These conditions were fulfilled very satisfactorily by means of an ointment, composed as follows: Boracic acid in fine powder one part, white wax one part, paraffin two parts, almond oil two parts. The ingredients, after being mixed by melting the wax and paraffin, are stirred in a warm mortar till the mass thickens, and then set aside to cool, after which the firm substance is reduced in a cold mortar, in successive portions, to a uniform soft ointment. This is spread thin on fine rag, and when the almond-oil leaves it, as it soon does through capillary attraction of the porous external dressings, a smooth firm layer remains, consisting of blended wax and paraffin, together with the boracic acid, which comes off from the skin without leaving any greasy substance adhering, and does not at all confine the discharge, which, while freely shed, is perpetually supplied with a sufficient quantity of the boracic acid to insure absence of putrefaction, while not preventing cicatrization. Such was the dressing employed in the present case, and it was beautiful to see the large raw surface, though involving such sensitive structures, yet perfectly free from surrounding redness or puffiness, while the patient except for a short time during the day of the operation, experienced no uneasiness whatever.

Dr. CHIENE corroborated what Mr. Lister had said in praise of boracic acid. He had found it a most excellent antiseptic and deodorizer. He had used for eighteen months an ointment consisting of one part of finely-powdered boracic acid to two parts of the unguent, simplex of the Pharmacopœia. He had also used the boracic powder mixed, in the same proportions as in the ointment, with fuller's earth, china, clay or kaolin, and starch. In superficial abrasions and excoriations, in eczematous and pruriginous eruptions, these powders were most efficacious. He thought his ointment preferable to Mr. Lister's in that it contained more boracic acid. The important requisite was to get the acid very finely powdered. Mr. Brown, chemist, Hanover Street, had done this for Dr. Chiene. He had also made the ointment since 1872, and lately he had manufactured boracic pessaries and suppositories, which Dr. Chiene believed would be most useful as deodorizers in fetid discharges from the vagina and rectum.

Dr. MATTHEWS DUNCAN, nearly a year ago, had been told by a patient of the very great relief she had obtained by the use of boracic-acid ointment in prurigo; since then, in many other cases, he has seen much advantage from its use.

Bromide of Potassium as a Caustic.

M. PEYRAUD (*Bordeaux Medical and Bull. de Therap.*, Juillet 15), having previously established that the bromide of potassium possesses the property of arresting local circulation, and that a concentrated solution of the salt, subcutaneously injected, produces eschars, reports a case of an extensive bleeding and vegetating canceroid of the face, which he treated by daily applications of the salt, finely powdered, over the mass. In twenty-eight days the projection formed by the disease had disappeared, leaving, however, its base of implantation in the deep tissue. It is stated that these applications have the great advantage of being painless. Peyraud thinks that the bromide acts by arresting the circulation in the capillary vessels rather than by destroying the tissues mechanically like caustics. It is suggested that this salt may be useful in checking fleshy growths, etc. In morbid growths, in which the skin is not ulcerated, a concentrated solution may be injected into their substance, or the integument may be previously destroyed.—*Irish Hospital Gazette*, Oct. 16, 1874.

Medicine.

On the Treatment of Gout and Uric Acid Gravel by the Ferro-benzoate of Lithia.

Several works lately published on gout and uric acid gravel (*Progrès Médical*, July 20) contain interesting information on the therapeutic employment of the benzoate of iron and lithia in gout and gravel. Some of the writers, as Dr. DALKIEWICZ in his *Généralités sur la Goutte et son Traitement*, 1873, and Dr. MALLEY in his *Considérations Générales sur les Dyspepsies, la Gravelle, et la Goutte*, recommend the simultaneous employment of the *eau de Vittel*, and of M. Trehyou's benzoate of iron and lithia. Benzoic acid, when ingested, changes into hippuric acid at the expense of the proteic matters, the principal source of uric acid. Hippuric acid forms very soluble salts in conjunction with the ordinary bases (soda, potash, and ammonia) of the fluids contained in the organism, whilst the urates of these same salts are insoluble in the fluids of the animal economy, since from them are formed calculi and gravel. Starting from these data, M. GUBLER has given the preference to the employment of benzoic acid. (Gubler, *Commentaires du Codex Medicamentarius*.) But this acid cannot long be used by itself, as experiments made in the Paris hospitals have proved.

M. Trehyou has therefore wisely thought it useful to associate the benzoic acid with lithia, a very soluble product, which prevents a fresh production of uric acid, and forms with that already existing a urate of lithine, the most soluble of all the urates. However, the benzoate of lithia has its drawbacks in the long run, like all the alkalies; and with the object of lessening them as much as possible, M. Trehyou conceived the idea of adding iron to it.

Dr. Michel, and Dr. Clément in his *Traitement de Gravelle urique avec de nouvelles Expériences sur l'Action des Alcalins*, show that M. Trehyou has not been mistaken in this method; an opinion corroborated by M. Folle Desjardins in his *Essai sur les divers Traitements de la Goutte Normale*, by MM. Palanchon, Drs. Raimondi, Maurel, Mallet, Lescure, etc. The summarized observations of cases in these works contain sufficient warrant to encourage medical practitioners in employing M. Trehyou's benzoate of iron and lithia in gout and uric acid gravel.—*Lond. Med. Record*, Nov. 4, 1874.

Hemorrhagic Diathesis.

Dr. HADLOCK, of Cincinnati, reported to the Cincinnati Academy of Medicine (*Clinic*, Nov. 21, 1874) the following case:—

Was called to a mulatto boy, aged seven years. Found him bleeding from the mouth, and an examination discovered that the hemorrhage was caused by the decayed snag of a tooth which had become loosened. Heat once removed the tooth, supposing that the hemorrhage would then cease, but, on the contrary, it increased and became quite alarming in character. He then applied a compress, steeped in a solution of persulphate of iron, and thus checked it for a time.

Was called again to the case in the night, and found the hemorrhage was going on more violently than before. Now cauterized the point with nitrate of silver, also gave astringents internally, and succeeded in arresting it once more. After a time it recurred again during the Doctor's absence, and Dr. Dandridge was called to the case. He applied ice, and gave acid. sulph. aromatic., but without avail. All the various styptics and astringents were tried in vain, and the boy died at the end of forty-eight hours. On inquiring into the history of the boy's family he found that many of its members had died of hemorrhage from slight wounds. An uncle of the boy had cut himself slightly with a scythe and died in consequence. His father had received a slight scratch from a brier and bled to death. Two other brothers had died of consumption. It was evidently an instance of hereditary tendency to the hemorrhagic diathesis.

Dr. M. B. WRIGHT said he remembered a number of cases in the past, one in particular, occurring in the practice of Dr. Gross, when he was a resident of Cincinnati, in which a child had died of hemorrhage after scarification of the gums.

Had also seen a family under the care of Dr. Worcester many years ago in which the hemorrhagic tendency existed in a marked degree, the smallest wounds resulting in severe and almost fatal hemorrhage. A case of his own had repeated hemorrhages, which he found it difficult to control. During one of these attacks administered sulphate of magnesia as a purgative, and to his surprise the bleeding was arrested. Tried it repeatedly in subsequent attacks in the same patient, and always with success. Now uses it in pulmonary hemorrhage in doses of a teaspoonful repeated every three or four hours, with the best results. Had lately used it in several severe cases of hemorrhage occurring just before the menstrual epoch, and found it to control it perfectly.

Dr. BARTHOLOW said the use of sulph. acid and its compounds was of interest in this connection. Had seen a lady with uterine fibroid, and who suffered from metrorrhagia, greatly relieved by the administration of acid. sulph. dilut. given by a homœopathic physician after various other remedies had been tried without success. Thought the beneficial effects of magnes. sulph. in hemorrhages depended on the acid it contains.

Dr. WRIGHT said he had often succeeded with the Epsom salts after failing entirely with the acids. Thought the sulphate of magnesia must possess some peculiar efficacy in these cases. Many years ago, during an epidemic of scarlatina, a physician, a friend of his, had met with great success in this disease, and his treatment consisted in the use of Epsom salts in small doses, and the external application of cold water. Especially in cases attended with hemorrhage was his success marked.

Dr. BARTHOLOW said that the sulphate of magnesia, with the addition of sulph. acid. dilut., surpassed all other remedies in the treatment of dysentery, especially when there is much blood in the discharges.

Dr. S. B. CHASE, of Osage, Iowa, reports (*Med. and Surg. Reporter*, Dec. 5, 1874) the following interesting case:—

"On Tuesday, July 23, 1872, I extracted the wisdom tooth from the left side of the lower jaw of A. M. Bryson, a lawyer of this city. Mr. B. is an American, about thirty years of age, of full habit, weighing one hundred and sixty pounds, and perfectly healthy.

"At the time I extracted the tooth, he informed me he came near bleeding

to death from extraction of the tooth in front of it. The first molar had been previously drawn without special hemorrhage. At the time the second was extracted, having bled about three weeks, in defiance of the best medical aid at command, and until nearly exhausted, he stopped the hemorrhage by holding the finger firmly pressed into the cavity, about twelve hours, with the upper teeth shut hard upon it.

"I had a vivid recollection of having treated him for epistaxis, in which I succeeded in checking the hemorrhage with full doses of *tinct. ferri mur.* internally, after having failed with other remedies.

"I also remembered having barely saved the life of his little daughter, aged three years, in the winter of 1869 and 1870, from profuse uterine hemorrhage. She had three successive attacks, at intervals of about four weeks each, ushered in with the usual accompaniments of puberty. This little girl had chicken-pox during the time, and the pustules filled with blood almost as soon as raised. In this case, as in the father's, the *tinct. ferri mur.* succeeded after other remedies failed.

"Mr. B. informed me that he had a brother who had bled severely from the kidneys and bowels for more than a year, occasioned by jumping from a horse.

"Although aware of these facts, and admitting the possible danger, I fearlessly extracted the tooth, not entertaining a doubt but I could readily stop the bleeding, should it occur.

"The gum appeared healthy, and the tooth came easily; nor did ten drops of blood follow its extraction. After remaining in the office about half an hour, greatly rejoiced at the success, as he had suffered some time from the tooth, fearing to have it drawn, he left for home, free from pain or indication of bleeding.

"After about one hour, without premonition, the blood burst forth with great violence. Continuing to bleed profusely, he returned to my office, as I had directed. I filled the cavity with *ferri persulph.*, which at once checked the hemorrhage, and he returned home, more pleased, if possible, than at first, both believing the trouble ended.

"He went about his usual business that day, and slept well that night. Early next morning the blood again gushed forth. The iron was again used, with perfect success for about ten hours, when the bleeding again burst forth. The cavity was repeatedly plugged, and the iron continued, with slight variation, until Saturday, each period of success shortening, until plugging, compression, and astringents, in every form, appeared to lose control of the hemorrhage.

"Every known remedy, both external and internal, was tried without avail. After having been checked a short time the blood would pour out as violently as at the first. It began to ooze from the gums as from a sponge, and by Tuesday evening, in defiance of astringents and tonics, aided by the most nutritious diet, the face began to assume a cadaverous expression; the extremities became cold, and the outlook was about as cheerless as one could well desire. The sufferer had not lain down for a week, and the indication that 'tired nature' was about ready to yield the contest was painfully apparent, all the physicians in the place generously aiding in the watchful care, both day and night.

"At this stage we used nutmeg, browned like coffee, the panacea of a soldier, and with most astonishing success. The bleeding stopped, as by magic, for about six hours, when out it burst again, as fresh as at first. We repeated this remedy some four or five times, at each time with shortening intervals, until its power was gone. A strong solution of collodion, with all the tannic acid it would hold, succeeded for a number of hours once, but for once only.

"A free use of kino in the cavity and about the gums, with my finger pressed as firmly upon it, for a number of hours, as the patient could bear, partially checked the hemorrhage; yet a combination of kino, catechu, and tannin appeared to increase the bleeding.

"After Tuesday we so far controlled the hemorrhage, that on the whole we

made blood faster than the sufferer lost it, thus passing the danger, though by no means relieving the care or anxiety.

"The actual cautery was not tried, as it had signally failed in his previous case. The most vigorous applications of arg. nit., used at the earnest request of an able physician, increased the trouble.

"After thirteen days of doubtful struggle, we finally succeeded with the same remedy which had repeatedly failed us, a plug of persulphate of iron, yet not until the patient had bled at least eight quarts."

On Hyperidrosis.

The *Gazette des Hôpitaux* (No. 94), of this year, publishes a clinical lecture by M. HARDY on this affection. He insists on its independence, on the one hand, of phthisis and other general diseases; and, on the other, of excessive physiological sweating from exertion. Without going as far as Professor Hebra in maintaining that this (and every other cutaneous malady) should be cured as quickly as possible, without fear of "metastasis" or other supposed mischief, the following advice would probably not be found very different in practice. "May we not fear sick-headaches, tuberculosis, or albuminuria as the result of suppressing excessive sweat? These effects may really ensue, but they are not inevitable. If the subjects of hyperidrosis belong to scrofulous or tubercular families, or have any other hereditary taint, it is prudent to abstain from trying to relieve them. But if they be in good health, and free from inherited tendency to disease, you need not hesitate, and the cure of your patient's infirmity will not be followed by any ill results." M. Hardy's treatment is that introduced by Hebra (vol. i. pp. 89, 90, New Sydenham Society's Trans.). He discards all internal remedies, and applies diachylon plaster so as to bring it thoroughly into contact with every part of the foot or hand, twisting strips of it round each finger or toe. This is renewed every morning, and before reapplying it the parts are well rubbed with a piece of dry flannel. After keeping the patient in bed under this treatment for ten or twelve days, the plaster is taken off, and he is allowed to go about as usual, except that the stockings should be dusted with some absorbent powder (starch, lycopodium, or asbestos) for a short time afterwards. The two cases which follow, exemplify the results of the Vienna treatment.

A waiter in a café, aged thirty-two, perfectly well otherwise, had suffered since childhood from hyperidrosis of the feet. This had been kept at bay by lead lotions, tannin, and lycopodium; but at last, in spite of great attention to cleanliness, the affection became so severe that he could no longer walk. He then became an inmate of St. Louis. The feet were bathed in an abundant and ill-smelling sweat; the soles looked as if they had been soaked in hot water; the furrows were much deepened, and occupied at the bottom by painful fissures, which also existed between the toes. Neither the hands, the armpits, nor any other parts of the body were affected. The treatment above described was adopted, and in a fortnight he was discharged, cured, without any ill-result. He returned to his business as a coffee-house waiter, and has had no return of his troublesome and painful complaint.

The second case was that of a healthy young woman, aged twenty-one, a domestic servant. As long as she could remember, she had been the subject of continual and abundant perspiration of the hands and feet, which was not stopped even in the severest winter, though it was increased by warm weather and by movement. Her father suffered from the same infirmity, but it was limited to his feet. She had been obliged to give up needlework, and various methods of treatment had brought little or no relief. On examination, the secretion was found to be as abundant and of as evil an odour as in the last case, but there were no chaps or fissures, and she was free from pain. Hebra's treatment was first applied to the feet; and within a fortnight there was such improvement that the patient begged that her hands might be also treated. After being two months in hospital, she was so much better that she insisted upon going home, though there was still rather more secretion than normal. Three months afterwards, there was no return of the previous condition.—*London Med. Record*, Nov. 11, 1874.

Regional Diagnosis in Brain Disease.

Dr. H. CHARLTON BASTIAN, Physician to University College Hospital, London, in one of his recent lectures on the Common Forms of Paralysis from Brain Disease (*Lancet*, Oct. 31, 1874) indicates the mode in which the signs and symptoms are grouped, as the lesion producing hemiplegia occurs in different parts of the encephalon.

LESIONS IN THE PONS VAROLII.—*Central parts.*—Large lesions here give rise to profound "apoplectic" symptoms—characterized by deep coma, complete resolution of limbs on both sides, flapping of cheeks during expiration, insensibility of conjunctiva, and notably contracted pupils. With such lesions in this situation (especially when suddenly produced) death may take place in a few minutes, a few hours, or in a day or two. Where there is a speedily fatal result, this occurs whilst the patient is still in the stage of collapse, with a temperature lower than normal—perhaps as low as 96° F. in the rectum. But where the life of the patient is prolonged for a few hours, the temperature of both sides of the body steadily rises, till at the time of death it may have attained 109° , or even 110° —a condition of the profoundest coma continuing throughout.

When a central lesion in the pons is slighter in extent, the patient after a time recovers from the first shock of the injury, and consciousness is gradually regained. We find, however, a generalized paralysis more or less equally distributed over the two sides of the body; sensibility also may be very notably diminished or perverted in one or more of the limbs. When, in addition to such signs, there is well-marked but irregular paralysis about the face, involving eyelids, mouth, and tongue—and when there is also difficulty in deglutition, or actual speechlessness not of the aphasic kind, we may be pretty sure that we have to do with a lesion involving the central parts of the pons Varolii. Of course many sub-varieties of this particular type of paralysis are to be met with, though in each of these we may recognize the characteristic combination of irregular bilateral motor paralysis of the limbs and face, well-marked paralysis or alteration of sensibility in some parts of the body, together with some distinct difficulty in deglutition as well as of articulation.

Lower half of one lateral region.—An injury of this part is characterized by the production of what is called "alternate hemiplegia," in which we have an unusually well-marked facial paralysis on the side of the brain lesion, and a more or less complete motor and sensory paralysis of the limbs of the opposite side. Such a hemiplegia may set in with apoplectic symptoms, or there may be an epileptiform mode of onset; whilst in other cases it supervenes more gradually, without either loss of consciousness or convulsions. After the effects of the first shock have disappeared, the temperature of the paralyzed limbs is generally found to be about 2° higher than it is on the paralyzed side.

Upper half of one lateral region.—Injuries to this part of the brain produce a hemiplegia of the same kind as that last described, with the sole exception that the well-marked paralysis of the face exists on the side opposite the brain lesion—that is, on the same side of the body as the paralysis of the limbs; for here the fibres of the facial are implicated above their point of decussation in the pons, just as the motor channels for the limbs are implicated above their decussation in the medulla.

But whether the lesion be in the upper or in the lower part of one lateral half of the pons, the facial paralysis is generally very well marked, so as to involve the orbicularis palpebrarum. It is also most frequently associated with some distinct difficulties in deglutition and articulation, whilst there is often a very copious overflow of saliva from the paralyzed side of the mouth. The degree of impairment of sensibility on the paralyzed side of the body is very variable, this symptom being more marked according as the lesion approaches near to or actually involves the ventricular aspect of the pons; and, where it exists, it is apt to be more marked and more durable than in the great majority of cases of hemiplegia due to lesions further away from the base of the brain. More rarely a condition of unilateral hyperæsthesia (often limited in its distribution) may occur instead of anæsthesia; and either state may be

associated with painful sensations in the limbs or with peculiar subjective sensations of "coldness," even when the temperature of the part is actually higher than natural. The fifth nerve is very frequently implicated in these cases of lesion in the lateral region of the pons, so that we may have anæsthesia, hyperæsthesia, painful or anomalous sensations on the corresponding side of the face, accompanied by a decided unilateral impairment in the sense of taste. There will also be a weakening of the temporal, masseter, and other muscles of mastication on the same side, if its motor division is damaged or in any way interfered with.

In addition to the presence of the before-mentioned symptoms in various degrees, lesions in the pons are especially apt to be associated with what is commonly known as "emotional weakness." There is an undue proneness shown by the patient to burst into tears or to laugh, without adequate cause, and often, it may be, quite inopportunist. The tendency to cry is generally more marked than the tendency to laugh. The comparative frequency of the existence of this emotional weakness in connection with injuries of the pons is, moreover, quite in harmony with what we know concerning its functions as a centre under whose influence the external manifestations of emotional states are regulated. The pons is not itself the centre principally concerned in the genesis of emotional states, as some writers have supposed, though it does seem to contain the centre by means of which such states, when actually in existence, reveal themselves by characteristic external manifestations.

Again, where lesions of the pons cause irritation of parts of the surface of the fourth ventricle, we may find sugar in the urine. In other cases there may be polyuria (diabetes insipidus) or albuminuria, if lower portions of the fourth ventricle are implicated.

Whilst suddenly occurring and extensive lesions in any part of the pons always produce an apoplectic attack of a profound character, slighter lesions are not unfrequently ushered in by an epileptiform onset, though in other instances (and especially where the damage occurs slowly) there is neither loss of consciousness nor convulsions. Early rigidity or spasmodic states of the paralyzed limbs are also very frequently encountered where we have to do with lesions of the pons Varolii. But, in addition to this spasmodic condition of the muscles of one or both limbs on the paralyzed side, there may be trismus or rigidity of some of the muscles of the neck.

LESIONS IN THE CRUS CEREBRI.—Some lesions in this part of the brain can be diagnosed with the greatest certainty; though in other cases the diagnosis can only be made in a provisional and more doubtful manner. These differences depend altogether upon the precise site and extent of the lesion. Thus, should the inner and inferior part of the crus near the pons be injured, or should there be a larger lesion implicating this and contiguous parts of the crus, the third nerve on the same side becomes paralyzed, whilst a hemiplegic condition is also established in the opposite half of the body: the diagnosis should then be easy. If, on the contrary, the lesion implicates only the upper and outer part of the crus (that is, the part next the cerebral hemisphere), the diagnosis becomes much more difficult. There is no distinctive sign of a lesion in this situation, and the grouping of symptoms approximates very closely to that met with in lesions of the optic thalamus. It so happens, also, that lesions of the thalamus do very frequently extend into the upper part of the crus cerebri.

Under the present heading, therefore, I shall only dwell upon the combination of symptoms produced by lesions in the lower and inner part of the crus—a combination whose significance ought to be readily recognized, and which was described with great fidelity by Dr. Hermann Weber about twelve years ago.

The condition induced is a peculiar form of "alternate paralysis." The third nerve is paralyzed on the side of the brain lesion, the existence of this condition being shown by ptosis or dropping of the eyelid on the same side; by dilatation and sluggishness of the pupil; by external squint (causing "double vision"); and by an impossibility of moving the eyeball except slightly in two directions—viz., slightly further outwards, owing to forced

contraction of the external rectus; and a little around its own axis in one direction (from outwards upwards) owing to forced contraction of the superior oblique muscle. All the muscles of the eyeball, in short, are paralyzed, except the external rectus and the superior oblique, which are supplied by the sixth and fourth nerves respectively. The coexisting hemiplegia on the opposite side of the body approximates in its general characters to that produced by a lesion in the upper part of one lateral half of the pons Varolii. Thus the tongue generally deviates distinctly to the paralyzed side, and the facial paralysis about the mouth is well marked. There is often some difficulty in articulation, or perhaps only a mere thickness of speech for a time. The power of deglutition may not be interfered with. Sensibility is mostly very decidedly impaired on the paralyzed side, the impairment continuing for some time, and being more marked in the limbs than in the trunk. The temperature of the paralyzed limbs, moreover, may be as much as two degrees higher than that of the non-paralyzed side.

LESIONS IN OR JUST OUTSIDE THE OPTIC THALAMUS.—Injuries in this site, as I have already stated, not unfrequently involve at the same time the upper part of the crus cerebri, especially in cases of hemorrhage into the substance of the thalamus. It will be found, however, most advantageous to compare the effects of injuries to the thalamus with those produced by *lesions in or just outside the corpus striatum*. The grouping of symptoms occasioned by lesions in this latter situation have already been carefully described since they were taken as typical of the hemiplegic state in general. It remains for me now, therefore, merely to point out the principal difference or departures from this mode of grouping observable with lesions in or just outside the optic thalamus. Our knowledge is, unfortunately, still very incomplete in this direction, although I am able to make you acquainted with some important variations which are known to occur.

In the first place, it seems that the motor paralysis occasioned by injuries in or about the thalamus is generally less pronounced than that which would have been occasioned by lesions of equal extent in or about the corpus striatum, and in some cases it may be even almost entirely absent. The paralysis of the face especially is said by Gintrac to be less distinctly marked, though this is a point about which I have not as yet been able to come to any definite conclusion. The evidence has appeared to me conflicting.

It does seem, however, to be undoubtedly true that early tonic and clonic spasms in the paralyzed limbs or about the face and neck are especially frequent with lesions of the thalamus. I have often noted this myself, and we had a very good illustration of it in the case of a man lately in the wards, where the presence of this and other symptoms led to a regional diagnosis, which was subsequently completely verified by post-mortem examination. Spasms of this kind have, in fact, been noted in nearly three-fourths of the recorded cases of lesions in or just outside the thalamus, though they are quite exceptional where we have to do with lesions of the corpus striatum.

Though there seems to be no very distinct difference as to the degree of impairment of sensibility in lesions of the thalamus and corpus striatum respectively, the impairment is, perhaps, slightly more marked in cases of lesions of the thalamus. Former physiological notions concerning the functions of the thalamus are, however, by no means borne out by what we know of the effects produced by disease in this part.

The difference in temperature between the limbs on the paralyzed and on the sound side of the body is generally more marked in lesions of the thalamus than in those of the striate body, and in explanation of this I may hazard the following conjecture: The pons containing the principal regulative centres for the vaso-motor nerves, the closer proximity of the thalamus would probably entail (in cases of lesion of this body) a more powerful reflex inhibitory influence upon the vaso-motor centre on the same side than would be occasioned by lesions in or about the more distant corpus striatum. Thus, whilst in the latter class of cases the temperature of the limbs on the paralyzed side is rarely more than one degree higher than that of the limbs on the sound side (and even this difference soon diminishes), in cases of lesions in or about the thalamus

the difference may be one and a half or even two degrees, and it persists for a much longer time—often for many weeks.

Again, aphasic difficulties in speech, which are so common when we have to do with lesions in or just outside the left corpus striatum, are not, as a rule, met with where we have similar lesions in or about the left thalamus. It not unfrequently happens, however, that these two bodies are damaged simultaneously by some single lesion; and then we should have the combination of aphasic symptoms, together with early rigidity and other signs more indicative of a lesion in the thalamus.

Nothing more definite, I believe, can at present be said concerning the differential diagnosis of lesions in these contiguous though very different brain-regions.

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On Hemiplegia in Relation to Insanity.

In the *Edinburgh Medical Journal* of August, 1874, Dr. HAYES NEWINGTON considers the subject of "Hemiplegia in relation to Insanity." Hemiplegia, as it is met with in asylums, may be divided into two classes: the first containing those where the seizure may be regarded as accidental; the other embracing those where the attack is the cause, result, or complication of the psychical disorder.

1. Where each individual patient labours under some form or other of brain-disorder, hemiplegia may be expected to occur frequently. The commonest naked-eye pathological change in a lunatic's brain is atheroma of the vessels; and in the aorta, or on the semilunar valves, patches of deposit are found in the majority of cases. And yet rupture of vessels is not much more common in asylums than out of them, owing, probably, to the regular and restricted diet, sedentary habits, and a blunting of all the emotions which ordinarily disturb the vascular supply.

2. In the second class of cases there is an obvious relation between the psychical and the physical disease. Hemiplegia has given a name to a variety of mental disease. This has been called "paralytic insanity," and always assumes the type of dementia. It is not to be confounded with general paralysis of the insane. Of this insanity hemiplegia will not, usually, be the only cause. Predisposition, hereditary or acquired, is necessary, and alcohol is a very likely form of the latter.

Hemiplegia is more frequently found as a result of insanity. It is common to see a patient down on one side, limping along, with obliquity of the tongue, and inequality of pupils. In the course of a few days we find him as free from motor troubles as any of his neighbours, and hear that he has had an epileptic or epileptiform seizure prior to the symptoms, or has been excited or noisy at night. The cases of this evanescent hemiplegia may be divided into two classes:—

a. Cases where the paralysis is independent of a convulsion of any kind, but supervenes on an attack of excitement. Here, probably, the hemiplegia is due to minute extravasation of blood into the optic thalamus and corpus striatum. Symptoms so caused may rapidly pass away. An extravasation need not necessarily disintegrate brain-structure irremediably. If of small size, it may split up and separate without destroying the nerve-fibres, leaving a chance of their resuming their duties.

b. Cases where a convulsion precedes the paralysis. This class is composed of epileptics, general paralytics, and patients suffering from adventitious products in the brain.

As to these cases, Dr. Newington quotes Niemeyer's opinion, that by far the greater portion of injury done to the motor system is due to extravasation not of blood, but of serum; and nothing seems more probable than that such should be the fact, when, as in epilepsy, there is great and continued pressure exerted on diseased vessels, and when also no evidence of hemorrhage or obstruction is found; while, on the other hand, dilatation of vessels and waterlogging of the

brain-substance is a very common discovery. It is to this effusion, occurring partially, that he would attribute the evanescent hemiplegia in this class of cases.—*London Medical Record*, Oct. 7, 1874.

On Catheterizing the Larynx in Croup and Diphtheria.

Dr. AND. V. HUTTENBRENNER (*Jahrbuch für Kinderheilkunde*, September 18, 1874), after just making mention of Loiseau, and of Bouehnt's "tubage de la glotte," passes on to criticize the method set forth by Weinlechner (in the same year-book for 1870, p. 69). The opinions of Hüttenbrenner are thus summed up:—

1. Upon the passage of a catheter, or of Weinlechner's pipe, into the larynx, the child may become accidentally asphyxiated. This accident is due either to a great difficulty in passing the tube, when the operator has not the help of two or three people to hold the struggling child; or to separation of false membrane from the glottis, and aspiration of the same into the trachea on the bifurcation of the bronchi. The latter accident has happened twice to the author.

2. Repeated catheterism, upon every recurrent narrowing of the larynx, is harmful; by no means making tracheotomy unnecessary in the long run, and greatly exhausting the child's strength.

3. Wounds of the mucous membrane of the mouth and cheek, by the gag, can hardly be helped. Moreover, the glottidean pipe easily scrapes the larynx; the abrasions bleed at the time, and are covered with false membrane in a few hours.

4. The relief after catheterism does not last more than a few hours, and then the child is left as bad as before.

5. The operator needs the help of several experts, and hence can hardly undertake the operation in private practice, without running great risks.

6. There is only one indication for the use of the laryngeal catheter in croup, and that is, when life is threatened, to gain time for tracheotomy.—*Medical Record*, Oct. 21, 1874.

Inhalation in a Case of Casts of the Bronchial Tubes.

Dr. EDWIN PAYNE, Physician to the North London Hospital for Consumption, reports (*Lancet*, Nov. 7, 1874) the following interesting case:—

At the latter part of 1873, a youth aged sixteen presented himself as an out-patient at the infirmary in Margaret Street, complaining that he was much troubled by coughing up frequently, indeed almost daily, a firm white material, sometimes in considerable quantities. This, upon examination, presented the appearance of regularly formed casts of the bronchial ramifications, from bronchi of the third and fourth order, consisting of tree-like, repeatedly forked coagula of a white colour. Upon examining the chest the sounds were healthy, with the exception of some sibilant rhonchus at the infra-scapular region on the left side. He had brought up these casts during a period of two years. The only history of previous illness was, that as a child he had had diphtheria.

For the space of two months he was under treatment, and used an inhalation of creasote and tincture of iodine, five minims to ten minims of each in a pint of steaming water twice or three times a day; at the same time he took some dilute nitric acid and bark twice a day. The progress of the case was, that the casts gradually diminished, and concurrently the amount of the sibilant rhonchus diminished also, until at the end of the two months he was free from his trouble, and upon reporting to me on two or three occasions, the last of which was after the lapse of three months, he had had no return. It is now six months since I had a report, and I conclude that he remains well, as it was understood he would report to me if necessary.

This case appears to illustrate the beneficial action of a mode of administering remedies (inhalation) concerning which I have occasionally heard a little

scepticism expressed; and I may here state that this youth had never used inhalations before, nor had he benefited by treatment which he had received. I do not of course advance this as any novelty in therapeutics, but rather as a good confirmatory instance of the usefulness at times of inhalation, and that remedies thus administered will reach somewhat minute lung structure.

Sewer-Gas Pneumonia.

On March 14, the parish sewer in the road exactly opposite a first-class boy's school at East Sheen,¹ Mortlake, London, S. W., was opened by order of the Rural Sanitary Authority for the purpose of inserting a ventilator protected by a charcoal-screen. Mr. Waterfield, the head master of the school, remonstrated, and backed up his own scientific objections by a certificate signed by several eminent medical men, including Sir W. Jenner, Bart., two of whose sons were students at the school. Sir W. Jenner especially mentioned the danger of pneumonia in connection with the probable escape of sewer air in the vicinity of the school. The Sanitary Board persisted in carrying out their intention, with a trifling modification. On Friday, March 20, a high tide in the Thames blocked up the mouth of the sewer, and the compressed gases forced an opening through the ventilator. The rooms of the school facing the road were filled with foul-smelling sewer air. Next morning, a boy sleeping in one of these rooms was taken seriously ill with pneumonia; on the evening of the same day two other boys and two servants became similarly affected. One of the servants ultimately died. Mr. Waterfield at once broke up his school for the time being. In consequence of strong representations, the Sanitary Board removed the ventilator and closed the opening on the evening of the 21st, after which all smell ceased, and no additional cases of illness of any kind occurred in the house. As a rider to this instructive history, we have only to add that for fifteen years no illness attributable to drainage evils had occurred, and that two inspectors sent down by the local government board pronounced the sanitary arrangements of the school-house to be excellent.

There is little doubt that sewer-gas pneumonia, or pythogenic pneumonia, is of far more frequent occurrence than is generally supposed. The remarkable prevalence of pneumonia during the summer in many cities, may be satisfactorily accounted for by the greater impurity of the air in the warm season. If proof were needed of this, we have it in the fact that a period of diminished rainfall, low relative humidity, and considerable heat invariably increases the frequency of cases of pneumonia. This was notably so in Dublin last May and June, when the Liffey bore such powerful witness to the warmth and dryness of the season. In the quarter ending June, 1874, the deaths from pneumonia in Dublin were 55, against an average of 48 in the preceding ten years. It is also worth noting that pythogenic pneumonia is a form of inflammation of the lungs *sui generis*—one which, indeed, closely resembles the so-called “typhoid pneumonia.” Pneumonia has for many years been familiar to the medical staff of Cork Street Fever Hospital as prevailing in the early summer months.—*Irish Hospital Gazette*, Nov. 2, 1874.

Duodenal Ulcer opening into the Abdominal Aorta.

E. Stieh reports in the *Deutsches Archiv für Klin. Med.*, 1874, the case of an old woman who in eighteen days died from repeated attacks of hæmatemesis. In the lower transverse portion of the duodenum was a roundish ulcer, at the base of which was an opening that would admit an ordinary probe, communicating directly with the aorta about two inches above the bifurcation. It was slightly plugged with a fresh clot. The inner coat of the aorta showed extensive atheromatous changes, and at the point of perforation was an irregularly round atheromatous ulcer. There was no evidence of aneurismal forma-

¹ For the full account of the remarkable outbreak of this form of pneumonia at East Sheen, see the *Med. Times and Gazette*, April 4, and June 20, 1874.

tion at this point.—*Brit. Med. Journ.*, Oct. 24, 1874, from *Centralblatt für die Med. Wissensch.*, July 18, 1874.

Diffused Suppurative Inflammation of the Stomach.

Dr. HILTON FAGGE exhibited to the Pathological Society of London (*Med. Times and Gaz.*, Oct. 31, 1874) microscopic specimens from a case of diffused suppurative inflammation of the stomach. A merchant, who had made a fatiguing journey on the previous day, during which he seems to have eaten moderately, was one morning suddenly taken ill with severe paroxysmal pain in the abdomen, passing from the epigastrium through to the back, and accompanied with severe retching. The patient was sallow, and the disease was diagnosed biliary colic. The administration of opium and warm baths was followed by great relief, and in the afternoon the patient was able to walk to the water-closet and back. But at half-past eight o'clock he was found dead. The relatives were disposed to attribute the patient's death to an overdose of the anodyne. The body was examined forty hours post mortem, when decomposition was considerably advanced. The lungs were healthy. The heart was very soft; the muscular structure brown; and the lining of the cavities stained. Microscopically almost nothing remained to be seen of muscular tissue beyond granular matter. The liver was soft; the biliary apparatus normal. The kidneys were not diseased. The stomach was found empty; its walls were greatly thickened, so that they measured one inch in one situation. At the pylorus this thickening suddenly ceased; at the other extremity it did so more gradually. The whole wall was very soft—mucoid in consistence, and of a greenish hue. To the naked eye it appeared to be invaded by some new growth. On careful microscopical examination it was found that all the coats were infiltrated with pus-cells. There was no peritonitis; and no ulceration internally. Some of the gastric follicles were found to be normal. Dr. Fagge remarked that the case was an extremely rare one, nothing similar being recorded in the *Transactions* of the Society. Bamberger mentions a single case of phlegmon of the stomach in a young soldier, where the gastric walls were infiltrated with pus. In reply to certain questions put by the president, Dr. Fagge said that the temperature of the patient was not recorded, as the case was not at first considered to be a serious one; neither was the condition of the pulse known. No pus was actually seen post mortem, but the infiltration of pus-like cells pointed to its inflammatory nature.

On Iced Clysters in Dysentery.

Dr. WENZEL (*Annales de la Société de Médecine d'Anvers* and *L'Indépendante*, April, 1874), having had occasion to treat a great number of cases of dysentery, has found the best remedy to consist in the injection of ice-water into the rectum. The first case he treated in this way was one of severe dysentery. There were intense fever, abdominal pains, excruciating tenesmus, and profuse sanguineous evacuations. To check the hemorrhage, injections of ice-water were ordered every two hours, which not only caused the sanguineous evacuations to cease, but also removed the tenesmus, enteric pains, and fever. The beneficial effect of these injections was so evident that the patient urgently demanded their repetition whenever the pains threatened to reappear. Dr. Wenzel considers this treatment more satisfactory than any other in acute cases, although in chronic cases it can only be expected to afford temporary relief.—*London Med. Record*, Nov. 4, 1874.

On the Physical Diagnosis of Interstitial Hepatitis.

Dr. BORELLI (*Verhandlungen der Physikalisch-Medizinischen Gesellschaft zu Würzburg*, Band viii.) considers a constant sign of this disease to be a rise of the upper margin of the hepatic dulness, while the under margin remains at or very slightly under the normal position. In other diseases the under margin

descends first, and the dulness only begins to extend upwards after the liver has become considerably enlarged. The cause of this is partly the meteorismus, which drives the liver upwards in this disease, and partly the non-resistance of the diaphragm, weakened by extension of the inflammation to it from the liver. Ascites does not usually occur during the neoplastic phase of the disease, but generally commences when the newly formed connective tissue begins to shrivel and to press on the hepatic vessels.—*London Med. Record*, Dec. 2, 1874.

Benzoic Acid in Ammoniacal Urine.

Prof. GOSSELIN and Dr. A. ROBIN have published an extended memoir upon the production and effects of ammoniacal urine, in the *Archives Générales* for May and June, in which they go fully into the history of the subject, and detail a great number of experiments which they have performed. In another memoir, in the number of the *Archives* for November, they enter at full length upon the treatment of the cystitis which they have found to be induced by ammoniacal urine.

"In the case of a solution of continuity of the vesico-urethral mucous membrane, the patient is exposed to all the dangers of a general intoxication. It may determine local complications resulting from the immediate action of the urine on the divided tissues, giving to the urinary infiltration quite a character of special gravity. On the other hand, whether a wound of tissue be superadded or not, this condition may be the cause of well-known effects of a different nature from the preceding. There is first the constant irritation of the mucous membrane of the bladder by this urine, whence comes an abundant secretion of mucus, which favours the decomposition of the urea. This irritation, more or less prolonged, may end in a more or less intense cystitis, which in all cases has a remarkable tendency to become chronic. Another result not less important is that the ammoniacal condition favours the formation of ammoniaco-magnesian phosphatic calculi; for, as Prof. Robin has shown that, as the phosphates play an important part in the economy by reason of their property of combining with ammonia—which they fix and saturate—so, in the various humours and in the urine, they seize the ammonia as it is formed. Unfortunately, the ammoniaco-magnesian phosphate is insoluble."

The problem is to saturate the carbonate of ammonia of the urine without employing substances which may form insoluble salts, or such as are possessed of poisonous qualities. In this way we may be able to prevent, at least in part, the local and general accidents which are due to the absorption of ammoniacal urine and to the contact of this with divided tissues. In any case such neutralization would serve as a powerful adjuvant to the treatment ordinarily employed in diseases of the urinary organs. Carbonate of ammonia is a very alkaline salt, being almost a base by reason of the facility with which its carbonic acid is displaced, and our object is to select among the acids such of them as are best qualified to meet the object mentioned above. The authors, after passing in review the objections which exist to the employment of the various other acids which have been resorted to for this purpose, come to the conclusion that benzoic acid, formerly recommended by Alexander Ure, is the only one which meets the contingency. This is rapidly transformed into hippuric acid, and exerts no ill effect upon the economy, persons both in health and ill being able to take from two to six grammes per diem without detriment. Hippuric acid, thus formed, increases the acidity of normal urine, and in ammoniacal urine prevents the formation of phosphatic deposits by combining with the ammonia, which without it would have formed with the phosphate of magnesia contained in the urine an insoluble ammoniaco-magnesian phosphate. The hippurates in general, and especially the hippurate of ammonia, are very soluble. Benzoic acid is very slightly soluble in cold water, which constitutes one of the difficulties of its employment; but it may be given in suspension in mucilaginous or syrupy mixtures. A formula is—Benzoic acid, 1 to 3 parts; neutral glycerine, 4 to 6 parts; and mucilaginous mixture, 150 parts. As a general rule, only one gramme (fifteen grains) per diem should be given at first, this quantity being rapidly increased to three or four grammes. To many

patients as much as six grammes may be given, providing this quantity be not persisted in for too long a time, as indicated by dryness and a sense of smarting in the pharynx. The production of acidity or neutralization of the urine does not take place at once, the extreme limits of time which have been observed being from five to nineteen days, the mean period being from seven to eight days. This effect is announced by the diminution of phosphatic deposits, pus, and blood, and by a modification in the odour of the urine, the fetidity of which is gradually lost.

Four well-marked cases are given, and the authors appropriately reprint an interesting case related thirty years since by Alexander Ure, in his paper "On the Treatment of Phosphatic Deposition," published in the *Provincial Medical and Surgical Journal*, February 11, 1843, and "Braithwaite's Retrospect," vol. vii. The following are the conclusions of Prof. Gosselin and M. Robin's memoir:—

"1. The ammoniacal condition entering in part into the production of the accidents which supervene after operations on the urinary organs, it is highly desirable to prevent or diminish it. 2. Benzoic acid and the balsams which contain it, and probably other vegetable productions (as salicine, cinnamic acid, etc.), conduce to this result. 3. The hippuric acid which is produced acts in several ways—(1) By forming a hippurate of ammonia which is less poisonous than the carbonate. (2) By retarding the decomposition of the urine, and the consequent production of the carbonate. (3) By preventing the formation of insoluble phosphatic deposits, which are a cause of cystitis, and may become the point of departure of calculi. 4. The administration of benzoic acid should be recommended for the subjects of ammoniaco-purulent cystitis, and especially those of them who have to undergo operations on the urinary organs."—*Med. Times and Gazette*, Nov. 28, 1874.

— On a Rare Modification of Albumen in the Urine.

Dr. GEORGE JOHNSON, Professor of Medicine in King's College, reports (*British Medical Journal*, Nov. 14, 1874) the following interesting case:—

"On October 31st, I saw for the first time, at the Charing Cross Hotel, a fine muscular gentleman about thirty-five years of age, who had some febrile symptoms with muscular pains, which I at first thought might be a slight return of a Roman malarious fever from which he had suffered two years ago. The temperature was 101.5; pulse 80. After two days, his throat became sore, and there was much congestion of the uvula, tonsils, and fauces. The congestion extended to the mucous membrane of the larynx, which was red and swollen, and his voice was husky. The throat presented appearances which I have sometimes seen as a result of exposure to sewer-gas, but there was no evidence that he had been thus exposed.

"I gave him three-grain doses of quinia three times a day, and a chlorate of potash gargle. The symptoms rapidly passed away, and on November 5th he was so well that I took my leave of him.

"At my first visit, I took away a sample of his urine, which I found to present remarkable reactions with heat and nitric acid. I then handed it over to my son, who has recently published an elaborate paper on Certain Compounds of Albumen with the Acids (*Journal of the Chemical Society*, August, 1874). I subjoin his report on the specimen. I have only to add that, on the day after I obtained the first specimen, and each day afterwards, the urine of this patient was found not to contain the peculiar substance here described.

"*Report on a Specimen of Urine, by George Stillingfleet Johnson, Daniell Scholar of King's College, London.*—The urine was highly coloured, feebly acid, and became slightly turbid on boiling. This slight turbidity was at once cleared up by the addition of nitric acid (phosphates). A few drops of nitric acid produced in the cold urine a copious white precipitate, which was at once dissolved on heating, or on the addition of more nitric acid. This precipitate did not reappear on cooling, nor on neutralizing the acid with potash. A solution of corrosive sublimate gave a copious white flaky precipitate, not dis-

solved by heat, and resembling ordinary coagulated albumen. Solution of ferrocyanide of potassium gave no precipitate either in the cold or on heating; and after the addition of this salt to the cold urine, nitric acid failed to produce any precipitate.

"The urine was placed on a dialyser of parchment-paper, which was floated on some distilled water. After twenty-four hours, the liquid on the dialyser was found to be neutral; and its behaviour with reagents was much altered, though no odour of decomposition was perceptible. Nitric acid now produced a transparent gelatinous precipitate, dissolved by heat. The application of heat alone produced no alteration, nor did solutions of potassium-ferrocyanide, and ammonium-chloride. Solution of corrosive sublimate, silver-nitrate, and plumbic acetate, produced gelatinous precipitates not dissolved by heat.

"The precipitate produced by corrosive sublimate in the original urine, and the viscosity of the liquid, would lead one to suspect the presence of ordinary albumen; but the absence of coagulation by heat, and the resolution of the coagulum produced by nitric acid on adding excess of the acid or on heating, together with the very curious change produced by dialysis, would seem to indicate a perfectly distinct modification of albumen.

"Dr. Beale has published a case (*Kidney Diseases, Urinary Deposits, and Calculous Disorders*, p. 227), reported by Dr. Leared, in which the urine gave exactly the same reactions with heat and acid as the sample above described."

On the Eruption produced by Bromide of Potassium.

Dr. TH. VEIEL, of Canstadt, publishes in the *Vierteljahresschrift für Dermatologie und Syphilis* (1874, parti.) twelve cases of this affection. After alluding to the numerous observations by Damourette and Pelvet, Sander, Voisin, and many others in England and America as well as on the continent, he narrates his own. The patients were all young (aged from fifteen to twenty-eight), and in all the eruption had the character of acne-papules and pustules, sometimes associated with comedones. It usually affected the face and scalp, but frequently the shoulders and chest, and sometimes the limbs. In one case there were troublesome boils in addition; in another (a boy of sixteen) numerous warts appeared on his face and legs. Two other patients were attacked by wheal-like erythematous patches on the legs, from a shilling to a florin in size, which were exceedingly tender from the first, soon underwent ulceration, and did not heal until the bromide was discontinued. Ordinary erythema nodosum of the lower extremities was more common, and still more so a diffused and painful dermatitis (erythema simplex), also confined to the legs, accompanied with some pyrexia, and only disappearing when the drug was omitted. Dr. Veiel has not found that the cutaneous eruption depends on any constant quantity of bromide of potassium or length of its administration, or on the patient's age, sex, or "constitution." He thinks that the preference for the hairy scalp and thighs is an available point of diagnosis between it and ordinary acne; but has observed nothing distinctive in its appearance, and has failed to detect bromine in the pustules when it was abundant in the urine.—*Lond. Med. Record*, Nov. 11, 1874.

On the Fungus of Alopecia.

M. MALASSEZ (*Revue des Sciences Médicales*, July 15, 1874) says that since 1843, when M. Gruby announced to the Academy of Sciences that he had discovered a parasitic fungus in the form of *Tinea*, called *Porrigo decalvans*, and that he considered this parasite (*Microsporon Audouini*) as the cause of the disease, micrographers and dermatologists have sought in vain for Gruby's fungus. Indeed the parasitic character of alopecia has always been a matter of doubt; some have denied the presence of the parasite in this disease; others, with a view to demonstrate its existence, have relied on the clinical development of the disease rather than on the verification of the actual presence of the parasite.

This parasite exists however, undoubtedly. M. Malassez has found it on the scale of epidermis obtained by scraping the patches of alopecia on the skull. These scales, freed from grease, then washed in very pure absolute alcohol, and mounted in carbolic acid (1 in 100) showed unmistakable parasites made up of small spherical spores only. Three distinct types of these parasites can be made out. Those of the first type measure from 4 to 5 millimetres, have a double contour, and sometimes show buds with a simple contour; these are the large spores. Those of the second part measure from 2 to 2.5 millimetres, have not a double contour, but may have buds; these are the small spores. Those of the third kind are less than 2 millimetres in diameter, have a single outline, and no buds; these are the sporules.

There are not any tubes, only little chains of, at the utmost, five or six spores. The spores of the first two varieties (both large and small) sometimes take the form of a more or less open C; these are the dead, empty spores—skeletons of spores. The sporules never present this appearance. The large spores and the sporules are grouped irregularly on the patches of epidermis. The small spores most frequently take the form of small chains. Finally, agglomerations or patches of these spores are observed, especially round the hair-follicles, which they surround like a border. The isolated spores are young colonies; seed sown here and there for future development. The patches are probably old centres of propagation. The spores are very seldom seen on the hair. When they are found there it is always on the surface of the shaft; they do not ever directly adhere to the hair, but to the neighbouring epithelial cells. They thus form a more or less complete chain or ring round the hair, and undoubtedly take their rise from the cutaneous epidermis.

The hairs are sometimes discoloured, atrophied, and brittle; but their structure is not sensibly modified, neither is the epithelium destroyed. Microscopic preparations of the skin clearly show that this parasite only locates itself in the most superficial parts of the horny layer; it frequently insinuates itself between the layers of epidermic cells which are detached mechanically in the form of scurf.

At the level of the patches of porrigo, near the orifices of the hair-follicles, the favourite habitat of the parasitic ring, the epidermis becomes considerably thickened, sometimes attaining fifteen times its normal thickness; in fact, a true *pityriasis pilaris* is developed, which interferes mechanically with the nutrition of the hair, strangles its growth, and destroys it by enlarging the follicle and producing desquamation, whence arises porrigo decalvans.—*London Med. Record*, Oct. 7, 1874.

On Pigment Flakes, Pigmentary Particles, and Pigment Scales.

Dr. J. G. RICHARDSON, microscopist to the Pennsylvania Hospital, directs attention (*Phila. Medical Times*, Nov. 14, 1874) to what he conceives to be an egregious error, by which several microscopists of acknowledged ability have been ensnared, namely, a belief in the importance of the "pigment-cells" or "scales" described by Frerichs, of Berlin, as occurring in blood;¹ of similar bodies found by Drs. Meigs and Pepper, of this city, under like circumstances;² and of the "pigmentary particles" or "celloids" figured by Dr. William Roberts, of Manchester, England;³ all of which Dr. Richardson asserts to be simply and solely accumulations of dirt (especially the remains of red blood-corpuscles) in the little excavations on slides in ordinary use.

The following experiment Dr. Richardson offers in evidence of his position.

"Examine an ordinary plate-glass slide microscopically for dirt-pits containing brownish-red matter which may be oxide of iron, or, if the slide has been long in use, old red corpuscles. If there are none already filled up with 'pig-

¹ Clinical Treatise on Diseases of the Liver. Sydenham Soc. Translation, London, 1860, vol. i. p. 320.

² Pennsylvania Hospital Reports, Phila., 1868, p. 108.

³ Urinary and Renal Diseases, Second American edition, Philadelphia, 1872, p. 125.

ment,' rub in faithfully a little blood, by which means you can sometimes fill the shallow cavities with the débris of the red disks, and so imitate quickly the effect ordinarily produced in a gradual manner by frequently wiping small quantities of blood over the glass. Lastly, clean off the slide perfectly bright (so as to be sure you leave nothing but artificial *sells* upon it), and examine with a power of 250 diameters.

"The bodies you probably find are accurately described by Dr. Roberts as follows:¹ 'Pigmentary particles; these objects deserve a passing notice from the fact that they are frequent, almost constant, if not absolutely constant, objects in urinary deposits, and have not hitherto been described. . . . They never exist in such quantity as to form the entire (*sic*) of a visible urinary sediment; they are only to be recognized by the microscope. They appear especially under two conditions—namely, as free amorphous particles and cell-like bodies (or celloids). . . . The cell-like particles have a peculiar appearance, very difficult to explain. They never present an unmistakably cellular character; they appear flat, never spherical. Their outline is generally an oblique ovoid. Within this outline, which is generally of exceeding delicacy and of perfect definition, lie masses of red or orange pigment, exactly resembling the free amorphous particles already described.'

"Frerichs, after pointing out similar objects, says² that accurate diagnosis can be made in malarial fever by examining the blood for them, since a few drops 'are sufficient to determine the presence or absence of large quantities of pigment.'

"Drs. Meigs and Pepper report finding pigment-particles in the blood of eighty-nine patients; but later these acute observers seem to have had shrewd misgivings respecting their importance, although without feeling satisfied as to their real origin.

"My own suspicions were excited years ago by Frerich's pigment-scales, and experiments on hundreds of specimens of blood from malarial and other cases convinced me of their delusive character.

"Very recently, Dr. James Tyson, of this city, whilst examining in committee some ovarian fluid, pointed out to me several of Roberts's pigment-flakes, and said he had prepared drawings of these bodies for his forthcoming work. His statement naturally led me to a careful and prolonged study of the objects in question, and this in turn forced upon me the conviction above expressed.

"Excluding carbon-particles (from the air), I attribute the peculiar shape of pigment-flakes which Roberts finds so 'very difficult to explain,' to the conchoidal figure of the minute chipped-out cavities in plate-glass; which little pits have, indeed, proved veritable pitfalls to unwary travellers over the microscopic field. These same shallow, shell-like excavations before being filled up with dirt are, probably, Frerich's 'coagula of a hyaline character, which resemble in form' (as they have a perfect right to do) the pigment-flakes, and are also Roberts's 'bluish mother-of-pearl' celloids.

"Dr. Roberts concludes, 'I have been in the habit of noticing these objects for many years, and have regarded them as derivatives of hæmatin, but how they come to assume their peculiar forms I cannot conjecture.' With him, I believe them to be 'derivatives of hæmatin,' but only by the *rubbing process* detailed above; and I trust that my 'conjecture' as to how these hæmatin-flakes 'come to assume their peculiar forms' will be satisfactory."

Surgery.

On the Therapeutics of Myopia.

The *Annales d'Oculistique* (July and August, 1874) contains a most interesting paper, which was written to show that the classic definition of myopia by Donders—to the effect that it is always associated with an elongation of the

¹ Op. cit., p. 124 et seq.

² Op. cit., p. 355.

axis of the eye—is too restricted, although Donders at the same time allows that the higher degrees of myopia may be attended with spasm of the accommodation. To M. Dobrowolski is due the credit of showing that, in a large proportion of cases of myopia of low as well as of high degree, this factor or “cramped accommodation” must be taken into consideration, and may be eliminated by the use of atropia; and both he and Liebreich have called attention to the apparent development of myopia in eyes which were undoubtedly hypermetropic. The result of a series of observations by SCHIESS-GENMUSEUS is to show that not only in emmetropia, but also in hypermetropia, a real myopia may be acquired. The maxim that myopia is incurable has become so deeply rooted, that all treatment is looked upon as of little value, and any opinion to the contrary carries but little weight. One difficulty which besets any treatment of the affection in its early days, is the absence in many instances of any subjective symptoms; for it is generally the friends of the myope who first notice any impediment to vision. The subjective symptoms, when they do appear, are well known—a certain aversion to light, and a feeling of uneasiness which at times amounts to actual pain; and these are associated with a spasm of the accommodation, with ciliary congestion, and with lachrymation. With the ophthalmoscope, a constant feature in commencing myopia is a decided redness of the optic disk, more especially on the nasal side, and with this hyperæmia there may be some haziness of outline as well; at a later period these appearances will be followed by pigmentary changes in the surrounding choroid, which when more advanced, will assume the well-known features of atrophic crescents. These same appearances have been noted by several in the eyes of hypermetropes who work without any assistance from glasses. The author of this paper believes that in these two opposite conditions of refraction, one and the same cause is at work—excessive action on the part of the ciliary muscle, and consequent congestion of the choroid and of the retina; so long as the mischief goes no further than congestion, the tissues may regain their natural appearance, but when structural change has once set in, this is no longer possible. It is probable that when the optic disk has become hyperæmic there is some congestion of the choroid as well, but it is not then appreciable with the mirror, and it is not sufficient to cause any atrophic change. Distension of the veins, with a curvature of the arteries, is also met with in these early days of the affection; similar appearances may be seen in the asthenopia which is the outcome of hypermetropia.

Schiess-Genmuseus asserts that the commencement of myopia is associated with a spasm of the ciliary muscle, a condition which predisposes to sclero-choroiditis, for it has been shown by Hensen and by Volkers that efforts in accommodation cause a real movement of the choroid; and all observers agree that during accommodation a larger quantity of blood is admitted within the eye—a condition in itself predisposing to inflammation, especially in young subjects. Why, however, the stress of the inflammation and the subsequent atrophy should fall upon the neighbourhood of the yellow spot, is not at all satisfactorily made out to the author's mind.

Granting the correctness of his assertion, that non-congenital myopia is generally associated with spasm of the accommodation, it is natural to suppose that the use of atropia would be attended with direct and very beneficial results, and this is so. The result of his observations is to support very conclusively the assertion of Dobrowolski, that a large percentage of cases of myopia of low degree are dependent upon ciliary spasm, and can be cured; that, in cases of high degree, the myopia will be very decidedly lessened; while there will still remain a certain number of cases where the myopia is extreme, and where the structural changes are so marked as to forbid the hope of any improvement from the use of atropia.

The result of this plan of treatment in one hundred and one myopic eyes was to show that spasm existed in eighty-five cases, while in fifteen cases no spasm could be detected. In one case, an amount of accommodation equal to one-eighth was released. These figures agree in the main with those published by Dobrowolski and by Hoesche. In the slighter degrees of myopia, the effect of the treatment was more marked than in those of high degree. The use of atropia

was persisted in for some weeks, and was generally accompanied with protective-glasses, and the observations were made and recorded when the accommodation and the pupil had regained their natural condition. The spasm did not reveal itself equally soon in all cases, nor did it yield with the same rapidity in every instance.

In his concluding remarks, the author warns us that we have no right to expect a specific against myopia in the sense that quinia is a specific for ague; but just as phthisis in all its forms was considered incurable, so it is unscientific to regard all cases of myopia as alike, and as incurable. The result of doing so has been that patients have resigned themselves to perpetual loss of vision, and that surgeons have contented themselves with stereotyped and half-hearted directions, which in many cases have been but half carried out. If the plan of treatment by rest and atropia be tedious and irksome, yet, if the patient be made to understand the principle upon which it is recommended, he will in most instances readily allow himself to be placed under any discipline which holds out a reasonable hope of better sight.—*London Med. Record*, Oct. 28, 1874.

On Tenotomy of the Tensor Tympani.

WEBER-LIEL gives, in the *Berliner Klinische Wochenschrift* for September 21, the results of his further experience of the operation. He says that he is convinced that many cases of progressive deafness, accompanied by tinnitus, are only to be benefited by this tenotomy, but warns the surgeon that it is not to be looked upon as a remedy against certain diseased processes, but against certain conditions common to different forms of ear-affection, viz., increased tympanic tension and heightened intralabyrinthine pressure. From 225 operations he concludes that tenotomy of the tensor tympani may, where every other means has been found useless, relieve vertigo, abolish or greatly reduce tinnitus, and improve the power of hearing; but relapses in old standing cases are not uncommon, on account of the other secondary changes which have occurred in the middle or internal ears. Where the operation was looked upon merely as a step to further treatment of the tube and cavity, the relapses were much more seldom, and it is in this light that Weber-Liel wishes it to be considered.—*London Med. Record*, Dec. 12, 1874.

On a Case of Phlebitis of the Sinuses of the Dura Mater, caused by Otitis.

In the *Archives of Ophthalmology and Otology*, vol. iv., No. 1, Dr. WREDEN gives the history of, and remarks on, an important case of phlebitis, ending in recovery so complete, that there is no trace of any functional injury. A boy, aged fifteen, of scrofulous diathesis, who had previously suffered from inflammations of the ear, was placed under his care on account of acute otitis media, with implication of the mastoid portion of the temporal bone. While progressing favourably, the boy became one day intoxicated, the effects of which were irritation and distension of the cerebral vessels and phlebitis of the transverse sinus. The course of the phlebitis was as follows: The first symptoms referable to affection of the lateral sinus were noticed on November 27, and under treatment disappeared so rapidly, that on December 1 following, the patient insisted on driving with his mother to a railway station, from which she was about to make a journey. Twenty-four hours after this drive (December 2), the inflammation of the cerebral sinuses returned with increased violence, and spread, on December 3, downwards to the right internal jugular vein; on the 4th upwards to the superior longitudinal sinus; on the 5th, to the left lateral sinus and the left internal jugular vein; and on the 7th, to the right cavernous sinus. Dr. Wreden's method of tracing the course of the affection to these different parts is worthy of note. The œdema was confined to the skin of the region of the ear as long as the transverse sinus alone was implicated; but when the internal jugular vein of that side became affected, the phlegmasia alba dolens extended from the mastoid process downwards over the side of the neck to the clavicle, the most painful point on pressure, and the

most swollen part, corresponding to the course of the internal jugular vein. On the 3d, puffiness of the face accompanied phlebitis of the internal jugular, which passed to "great œdema" of the right side of the face, when the large branches of the right facial became affected on the 4th; while, on the extension of the facial phlebitis to the smallest branches of the veins of the cheek, erysipelas bulbosum of that region occurred, the extension to the capillaries of the forehead being accompanied by the same affection there. On December 7, there were symptoms of irritation and checked circulation in the right eye, showing the implication of the right cavernous sinus. Dr. Wreden considers the characteristic sign of thrombosis of the internal jugular vein to be a dilatation of the external jugular vein, with a distinctly visible increase or diminution in fulness corresponding to inspiration and expiration. It is dependent on collateral blocking of the circulation, and is usually a temporary phenomenon. The thrombosis of the internal jugular vein was also marked by clonic and tonic spasms of the sterno-cleido-mastoid and trapezius muscles, due to irritation of the spinal accessory nerve from the thrombosis of the sinus of the vein while passing together through the jugular foramen. Repeated violent bleedings from the nose and epileptiform convulsions marked the implication of the superior longitudinal sinus, the former being due to back-pressure on the nasal veins, and the latter "to capillary hemorrhages in the cortical substance of the convexity of both posterior cerebral lobes." Wreden points out that, in all the recorded cases of thrombosis of the upper sinuses, those individuals who presented after death these lesions of the gray substance were subject to epileptiform attacks during life. Paralysis of the abducent nerve, unilateral headache, epiphora, photophobia, ptosis, œdema of the eyelids and conjunctiva, and weakening of the power of vision, showed affections of the cavernous sinuses, and consequent irritation of the sixth, fifth, and third nerves, and intra-ocular venous congestion by mechanical hyperæmia.

In the course of the paper the author makes a few well-placed remarks on the terms "thrombosis" and "phlebitis." He thinks the term thrombosis ought to be applied to those cases which owe their origin to mechanical influences, such as a diminution of the propelling power of the heart, impeded expansion of the lungs, and consequently back-pressure on the sinus, compression of the sinus, or coagulation in afferent or efferent veins, and extension of the coagulation to the sinus, unaccompanied by fever or pyæmic symptoms; while the term "phlebitis" he would limit to inflammatory processes of the sinuses, propagated from parts in the vicinity, by direct traumatic injury, or from the transference of the process from large veins communicating with it, and accompanied by violent fever, and often giving rise to pyæmic or septicæmic symptoms.—*London Med. Record*, Nov. 11, 1874.

— On Acute Ranula.

At a meeting of the Société de Chirurgie, held on June 3 last, M. TILLAUX read a note upon acute ranula (*Le Progrès Médical*). Hitherto he had considered that the obliteration of the ducts of the sublingual glands, and the accumulation of the liquid contained within them, accounted for their formation. But this is not sufficient to explain the origin of ranulae which arise suddenly. M. Tillaux had seen a man who went to bed perfectly well at ten o'clock at night, and at three in the morning he awoke with a large tumour under his tongue. A woman who was going down stairs, and another who was sitting by the fireside, were attacked equally suddenly. These tumours were encysted, and contained a clear, thin fluid, very like saliva. M. Méhu, who analyzed it, could not pronounce exactly upon its nature. Some authors consider that these ranulae are produced by the exaggerated dilatations of Wharton's duct; but this duct is far from being very dilatatable, as M. Tillaux has proved by direct experiment. He has injected and inflated it with considerable force, and the utmost size it attained was that of a crow-quill. When the pressure was increased, the duct gave way. But in the neighborhood of the duct there is a cavity capable of containing a certain quantity of liquid—viz., Fleisch-

mann's bursa, which M. Sappey said he had been unable to detect. M. Tillaux exhibited two specimens in which this synovial sac was very perceptible. It is triangular, situated between the frænum and the genio-glossus muscle, which it penetrates to the depth of about 27 millimètres. Wharton's duct is separated from it only by a very thin membrane. If, then, there was an opening from this duct into the bursa, it would be sufficient to produce a ranula. But Wharton's duct is very tough; it is necessary, therefore, to suppose that, while an obstruction prevents the flow of saliva, there is some degeneration in the walls of the duct which determines a rupture.

M. DOLBEAU did not consider that M. Tillaux's theory was sufficient to explain certain forms of sudden ranula. Four years ago M. Dolbeau had seen a lady who was threatened with suffocation in consequence of a sudden tumefaction of the floor of the mouth. Spontaneous resolution took place, but the patient died shortly afterwards from congestion of the lungs. A market porter applied for advice with a retroverted tongue, under which was a large tumour. Wharton's duct was free. The tumour disappeared rapidly, but a small sub-mucous abscess was formed. M. Tillaux's suggestion does not explain the spontaneous dispersion of the swelling.

M. DUPLAY did not believe that the fluid contained in a ranula was always analogous to saliva. It rather resembled the liquid of mucous œdema. Nor is the tumour always encysted. M. Duplay quoted cases in which Wharton's duct was much dilated, and constituted a true ranula. M. Tillaux ought to have experimented upon a diseased duct if he wished to ascertain its degree of dilatability.

M. LEFORT did not believe in the existence of a serous sac beneath the tongue.

M. TILLAUX had examined histologically the membrane which lines this cavity. It exhibits all the elements of a serous membrane. The principal object of his communication was to demonstrate the existence of this membrane, and it seemed to him that it explained certain cases of ranula. The examples cited by M. Dolbeau were not of the same kind as his own. His explanations applied only to encysted ranulæ arising suddenly, and containing a clear, thin fluid.—*London Med. Record*, Sept. 23, 1874.

On a Case of Fibroma of the Abdomen.

Dr. GERSUNY reports (*Wiener Medizinische Wochenschrift*, No. 36, 1874) a case of a large fibromatous tumour, growing from the anterior wall of the abdomen, and projecting into the abdominal cavity. An operation was performed by Professor Billroth for the removal of this growth, and the patient recovered. On account of the great size and excessive vascularity of the tumour, and of the extent of peritoneum removed in the operation, the case seems to be of special interest. The patient was a woman, aged twenty-four years, who had had three children, the last six months before the operation. About two years and a half previously, she noticed for the first time a hard round tumour near the anterior and superior spine of the ilium on the right side. After it had been present for a year and a half, and when the patient consulted Professor Billroth for the first time, the growth was of the size of a man's fist, and seemed to be prolonged into the cavity of the abdomen. As it then caused no trouble and seemed stationary, it was thought advisable not to interfere. After the subsequent confinement, however, the tumour increased rapidly in size, gave trouble on account of its weight, and was the seat of severe pains radiating along the right leg. Professor Billroth was again consulted, and again thought it well not to recommend an operation on account of the danger of excessive hemorrhage, and of wounding a large portion of peritoneum. On May 24, 1874, the patient again applied to Professor Billroth, who then decided, at her request, to operate for the removal of the rapidly increasing growth. At this time the woman was pale and seemed delicate; the right half of the abdomen was occupied by a prominent round tumour of the size of a man's head, which extended above to the lower margin of the thorax, externally to a line drawn

directly downwards from the anterior axillary fold, and internally to a vertical line drawn two inches to the left side of the linea alba. The integument was much stretched over this growth, and marked by large venous convolutions. Part of the growth was situated immediately under the integument, and part of it extended deeply into the abdomen. Its surface was smooth, and its consistency very hard. There was slight mobility from below upwards, and from side to side. There was no œdema of the right lower extremity, and the pulsation of the right femoral artery could be distinctly made out.

The patient having been put under the influence of chloroform, an incision was made through the skin along the course of the linea alba from the umbilicus to the pubic symphysis. From the middle of this, a second incision was made obliquely to the right, over the most prominent portion of the tumour. The much stretched anterior layer of the sheath of the rectus abdominis muscle having been divided, the surface of the tumour was exposed, and the rectus muscle was found to be in a state of fatty degeneration, and pushed over to the right side. During this stage of the operation there was much hemorrhage from the dilated veins of the integument and those on the surface of the growth. The posterior layer of the sheath of the rectus muscle was found to be inclosed within the tumour, and had evidently been the original seat of the disease. A considerable portion of the posterior surface of the tumour was next found to be closely adherent to the peritoneum, and wounding of this membrane in further steps of the operation could not be avoided. As the patient, on account of the continuous venous hemorrhage, was manifestly in a state of collapse, the operation was completed as rapidly as possible; the portion of peritoneum in firm adhesion to the tumour being excised, and the connection of the morbid mass with the broad muscles of the abdomen divided with quick strokes of the knife. Corresponding to the excised portion of peritoneum, which was as large as the hand, could be seen the omentum completely covering the intestines. The bleeding during this last stage of the operation was still very profuse, and proceeded mainly from large veins. The ragged portions of the anterior sheath of the rectus muscle having been cut away, the vertical wound was closed, the sutures being applied separately to the peritoneum and the skin above, and carried through all the layers of the abdominal wall below. The peritoneum formed a large loose sac on the right side of the wound, through which sac two drainage-tubes were passed from above downwards, so that their ends projected at the upper and lower extremities of the line of incision. The transverse wound was then closed by sutures, and a third drainage-tube inserted at its outer extremity. The operation was followed by extreme collapse, which was treated by the administration of black coffee and wine, and by bandaging of the lower extremities from the toes upwards, in order to drive the blood to the central organs. The patient slowly recovered from this condition, and in the evening had a good pulse. The further progress of the case was satisfactory, and on July 9 the patient was sent home cured, and with the abdominal wound quite healed. The only bad symptoms, presented during the course of the after-treatment were some few attacks of febrile disturbance, dependent on diffuse suppuration between the layers of the abdominal wall, and retention at first of wound-secretion, and subsequently of pus.—*London Medical Record*, Nov. 4, 1874.

On a Rare Form of Hernial Strangulation.

In the *Nederlandsch Tijdschrift voor Geneeskunde*, No. 38 for 1874, Dr. H. P. KAPTEYN describes a rare form of strangulation occurring in a case of scrotal hernia on the right side. The patient, a robust and well-nourished peasant, had had the hernia for fifteen years; he had worn a truss, but the hernia sometimes escaped; it was, however, readily reduced.

On July 7 the bowel came down while he was at stool. A medical man was called in, and tried the taxis in vain; another, who was called in consultation on the 8th, injected morphia subcutaneously, but still reduction was impossible. Dr. Kapteyn was now called in, thirty-one hours after the accident, and found

the hernia occupying the scrotum, which was of the size and shape of two fists. He proceeded at once to perform herniotomy. On opening what was apparently the hernial sac, he was surprised at not seeing a drop of fluid escape. The incision brought into view a bluish opaque mass, which by the sight and touch was recognized as omentum. On examination with the finger, a narrowing was found at the external ring; this was enlarged sufficiently to enable the finger to pass into the abdominal cavity. He now endeavoured to reduce the intestine, but could not do so, although the inguinal canal was sufficiently large. Believing that there must be another stricture, he introduced his finger into the opening in the sac, and found that the gut was strangulated by a firm constriction with a sharp circular edge, at the lower part of the scrotum, close to the testis. Guided by his finger, the intestine being carefully held aside, Dr. Kapteyn succeeded in dividing the stricture in three places without injuring the gut. This proceeding was followed by the escape of some dark red, turbid, bloody fluid; and the hernia was readily reduced. The omentum was extensively adherent to the sac, and was left. The healing of the wound was retarded for some days by sloughing of the omentum; the patient had quite recovered seven weeks after the accident.

Dr. Kapteyn says that he has not been able to meet with similar cases in literature, but, while in London in 1862, he saw Mr. John Couper operate under similar circumstances.—*London Med. Record*, Dec. 2, 1874.

On Forceful Taxis in Strangulated Hernia.

The *Centralblatt für Chirurgie* for September 12 and 19 contains a long and interesting article by MAX SCHEIDE, of Halle, on the advisability of employing forceful taxis in strangulated hernia. His statistics are very satisfactory, but, like all hernia statistics, they are open to the obvious objection that for the definition of strangulation no hard and fast rules can be laid down; and there can hardly fail to be left on the mind, after reading the paper, a suspicion that some at least of his cases would have been included under the head of incarcerated or obstructed hernias by most English surgeons. It will be seen that the proportion of deaths in the cases operated on is unusually high, but for this fact his explanation is a rational one, for, as will be seen, he never resorts to herniotomy unless there be some distinct evidence of advanced inflammation of the sac or gangrene of the gut. Space will only allow us to give a brief summary of his communication.

He begins by remarking that prolonged and forceful taxis is condemned on all hands at the present day, and complaining that "the almost universal enthusiasm" in favour of early operative interference quite drowns the feeble voices of its advocates. But he is convinced from his own experience that this mode of treatment is far too much neglected by surgeons. "If," says he, "Thiry went too far in asserting his belief before the Belgian Academy that the taxis is always successful if properly employed, it is, nevertheless, my belief that, with hardly an exception, all recently strangulated hernias will yield to a skilfully applied taxis, and that a great majority of those in which strangulation is of longer duration should be replaced without having recourse to an operation—that is, all cases in which there is no symptom of severe inflammation or commencing gangrene; or, in other words, when there is no œdema or discoloration of the skin." Then follow the statistics of thirty-seven cases observed by himself between April, 1868, and August, 1874, under which he includes only femoral and inguinal hernias. Of these, forty-one were replaced, with one death from "reduction *en masse*" after forty hours' strangulation, of which he gives a detailed account further on. Ten were submitted to operation, of whom five died. The periods of strangulation are given in the following table:—

Cases Successfully Reduced.

Under 12 hours	14
From 12 to 21 hours	11
2 days	7
3 "	7
6 "	1

Cases Operated on.

2 days	.	.	.	2	1 cured.	1 died.
3 "	.	.	.	2	0 "	2 "
4 "	.	.	.	1	1 "	0 "
5 "	.	.	.	2	2 "	0 "
Unknown	.	.	.	3	1 "	2 "

Of the fatal cases three were altogether *in extremis* on admission to the hospital—one died during the operation, and the other two survived only a few hours; one in whom a large piece of omentum was inflamed died the day after the operation; and in the fifth case "reduction *en bloc*" had been accomplished before admission, and the constriction was not reached at the time of the operation, death occurring on the fifth day from general peritonitis and gangrene of the gut. Of the five successful cases two had been submitted to energetic taxis without result, and in three the operation was absolutely indicated by gangrene of the omentum and intestine.

It is not necessary to follow the author into his summary of the statistics of other surgeons, as it is well known that those usually published show a higher mortality. He confesses that Halle is a particularly favoured situation, inasmuch as the means of conveyance are easily obtainable, and the poor people show a wise fear of allowing their hernias to go long without medical advice. As a result of this, half of his cases—viz., twenty-five—were seen within the first twenty-four hours, and were relieved by immediate taxis; but, as he points out, there is still a series of sixteen in which strangulation had existed for from two to six days, of which all but one had been previously submitted to a more or less energetic taxis with or without chloroform, and yet, with the one exception of a reduction *en bloc*, mentioned above, all were replaced by him without extraordinary difficulty.

The reason of his success he attributes to the fact that he is not afraid to employ greater force than is the habit with others; but he is always careful to come to some definite conclusion as to the condition of the contents before the taxis is attempted. Gangrene of the gut or omentum, he thinks, never occurs without œdema of the skin over the hernia; and the sense of fluctuation in the tumour shows the presence of a considerable amount of fluid in the sac, and therefore a marked interference with the circulation in the gut; in either of these cases he at once proceeds to operation.

In pursuit of this idea he thinks the question whether the taxis is to be employed should not be made to depend on the mere duration of the strangulation, as the fact is well recognized that tightness of the constriction exercises a more important influence, and also that in some cases the gut may have become actually gangrenous before fecal vomiting or other severe symptoms set in.

When the patient is deeply under the influence of chloroform, and a definite diagnosis as to the nature of the hernia has been arrived at, he proceeds the following way: With the thumbs placed together he exerts powerful pressure on that side of the rupture which appears nearest to the aperture through which it has emerged, moving it first to one side and then to the other, and pressing on the top of the tumour only when it is a very small one. In his successful cases he seldom takes more than five minutes, and never more than a quarter of an hour; "but during this time," he says, "I have always employed a much more considerable force than I have ever seen used by others, or than most would consider justifiable."

The paper concludes with a detailed account of three very interesting cases—one is that which was reduced *en masse* as mentioned above, and the other two cases which were submitted to operation; and also of three patients in whom, after long strangulation and reduction, peritonitis occurred, without leading to a fatal result.—*Med. Times and Gaz.*, Nov. 14, 1874.

On Treating Venereal Sores with Iodoform.

PROFETA (*Annales de Dermatologie et de Syphiligraphie*, tom. v. 1874) first alludes to the accounts of the value of iodoform when applied to ulcerating

surfaces of all kinds, by several French and Italian surgeons, and then relates thirteen cases in which it was employed. Two were ulcerating hard sores, and ten non-infecting sores, some of which were phagedenic. In none did any mishap arise; cicatrization proceeded steadily in all, and when the iodoform was applied to recent non-infecting sores, it healed them with surprising rapidity. The wounds were washed twice daily with solution of iodoform (iodoform, one part; alcohol, five parts; glycerine, fifteen parts) and then liberally sprinkling with the dry powder.

Two inconveniences attend the use of iodoform: its high price, fifteen grains costing one franc at Palermo [5s. 8d. per oz. wholesale in England], and its disagreeable odour; the latter is so peculiar and penetrating that it renders the patient unfit for society while it is employed. The first case narrated was one of obstinate creeping sore following virulent bubo, which continued two years, and resisted a multitude of caustic, alkaline, and other applications, attaining in January, 1874, a circular shape with a diameter of two inches and three-quarters. When iodoform had been used eight days the wound was a simple granulating surface, and in twenty-four days was soundly healed. The application of the powder is rarely painful and at once subdues the gnawing pain of serpiginous sores, so that the patient tolerates the temporary smarting that sometimes attends the application.

Julien (*Doyon's Annales*, tom. v. p. 461) describes the experiment of PARONA of Novara, with iodoform applied to painful rhagades at the anus.

Parona found that the most effective mode of applying it was as an ointment (one part of iodoform to two parts of lard) spread on lint and inserted three times daily. The pain, especially that during defecation, is assuaged at once, spasm subsides, and cicatrization is rapid.

Mr. BERKELEY HILL has during the last twelve months employed iodoform extensively at the University College and Lock Hospitals, as well as in private practice. His experience coincides in the main with that of Profeta and Parona. He has employed iodoform hitherto only as a dry powder, but for serpiginous sores of all kinds, as well as for spreading chancres. The iodoform appears to irritate suppurating wounds where there is no specific contamination. For example, iodoform was used in a case where the prepuce had been circumcised in order to get at the chancres underneath. Iodoform was at once applied to the chancres, and, as soon as suppuration began along the circumcision-wound, to that also. But the patient complained much of the pain when the inflamed surface was so treated, while none was felt at the chancres, which, moreover, did not inoculate the circumcision-wound. One of Mr. Hill's cases was even better testimony than that of Profeta. The patient, a gentleman, had suffered from serpiginous chancre of the foreskin for twelve months, by which a circular ulcer had destroyed a considerable part of the sheath and all the prepuce but a nodule of œdematous tissue connected with the frænum, and was invading the glans. Nitric acid, acid nitrate of mercury, sulphuric acid paste, and the actual canter, were all freely employed on several occasions, under chloroform. The patient took mercuric vapour-baths also for a considerable time, sufficiently often to maintain sponginess of the gums and fetid breath. No further effect than temporary arrest of the phagedenic action and its attending pain followed each canterization. Iodide of starch was then regularly applied. This checked the eroding action, and subdued the pain, but did not produce granulation; and, after a fortnight's trial, it was replaced by iodoform. Then healing began in three days, and continued rapidly without a check, until in a fortnight a sound cicatrix had replaced the angry ulcerating surface. The patient has remained perfectly well to the present time, eleven months.—*London Medical Record*, Dec. 2, 1874.

Treatment of Piles and Prolapsus of the Rectum by injection into the Rectum of Extract of Ergot.

Dr. G. WM. SEMPLE, M.D., of Hampton, Va., reports (*Virginia Medical Monthly*, Nov. 1874) the case of R. M. B., whom he operated upon for piles

in 1868 with the *écraseur*. "The disease began to return in eighteen months, and increased to such an extent, accompanied by prolapsus of the rectum, that for three years there had been a considerable loss of blood every day, and it had been necessary that he should lie down after each evacuation of his bowels to await the return of the prolapsed rectum, when, on the 8th of April last, I operated on him by the application of nitric acid. This, contrary to my usual experience, produced violent pain and irritation of the neck of the bladder, requiring for three days large and repeated doses of morphia.

"After healing of the slough, the piles still continued to bleed and to be painful, but the patient was unwilling to submit to further operative procedure. Having at the time under successful treatment, by ergot, a mammary tumour, and my attention having been called to the relief of varicose veins by the hypodermic injection of ergotin, and remembering that in several cases of imperfect involution of the uterus, in which I had successfully prescribed ergot in combination with sulphates of quinia, iron, and strychnia, and extract of *cannabis indica*, in which piles coexisted, they also had been cured, I ordered the injection of \mathfrak{zss} of the fluid extract of ergot, with \mathfrak{zss} of water, into the rectum after each evacuation. Though the patient has been irregular in pursuing the treatment, he has since seldom had any discharge of blood or suffered any inconvenience, and now considers himself cured.

"On the same day (May 1st) this prescription was made, B. H. E., convalescent from typho-malarial fever, who had suffered with piles and prolapsus of the rectum for 15 years, daily losing blood, and being obliged to lie down after every evacuation to await the return of the prolapsed part before resuming his work, called on me for advice. Ordered the same treatment, which he pursued steadily. At the end of six weeks, having had but one discharge of blood, he felt himself well, saying he was a new man.

"This patient's spleen had been greatly enlarged for many years, and that, much to my surprise, was reduced to its normal size by the treatment.

"I have since prescribed the same treatment in three other cases of piles, all of which have been cured. One of the patients was a pregnant woman. No labour-pains were produced or inconvenience felt."

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On the Treatment of Fistulous Sinuses by means of the Elastic Ligature.

At a late meeting of the Medical Society of London Mr. ALLINGHAM (*Lancet*, Nov. 7, 1874) read a paper on this subject. After a brief history of the use of ligatures, non-elastic and elastic, and of the various instruments devised to increase the power of non-elastic ligatures, Mr. Allingham expressed his opinion that, in certain cases, the elastic ligature possessed advantages over the knife, which he recapitulated as follows: 1. The operation is painless, and the subsequent suffering very slight. 2. It is bloodless. 3. There is greater rapidity in the cure. 4. The patient need not keep his bed, nor even remain in-doors. 5. Its peculiar applicability to delicate patients, and to those having a tendency to phthisis. 6. There is usually no anæsthetic required. 7. There is a minimum amount of suppuration. 8. It may be added, the ligature is very often a most valuable supplement to the knife. The speaker enlarged on all these points, and detailed illustrative cases. His experience of the elastic ligature was founded on its use in upwards of fifty cases of very varied character. Mr. Allingham then explained the mode of using his instrument, by means of which the operation was made very easy. This instrument, devised for the purpose of drawing the rubber through a fistulous passage, or beneath a tumour, consists in the combination of a concealed hook or notch with a blunt or sharp-pointed probe, as the case may require. The instrument is in the form of a curved probe with a sliding canula to conceal the hook which receives the loop of India-rubber; when this is placed in the notch the canula is pushed home, and the ligature is held so firmly that it cannot escape. It is not necessary, in fistula, to see the hook, for if the finger, with a loop of India-rubber around it, be passed up the rectum, the loop can with great facility be directed over the end of the probe and caught in the notch quite unassisted by vision. Mr.

Allingham concluded his paper by expressing his conviction that, although the elastic ligature was not likely to supersede the knife in the treatment of various kinds of sinuses, yet it might be considered as a very valuable addition to our surgical armamentaria.

On Extirpation of the Scapula.

Dr. R. SCHNEIDER, of Königsberg, reports a case (*Berliner Klinische Wochenschrift*, No. 31, 1874), in which the left scapula was extirpated on account of a sarcomatous tumour. The subject was a weakly boy, aged six and a half years. The tumour had been growing for five months, and during the last three months had increased rapidly in size. The whole of the left scapular region was finally occupied by a firm elastic painless growth, closely connected with the bone, but not involving the integument. This growth was of the size of the fist, and internally terminated at the base of the scapula, but passed beyond the external and superior margins of the bone. It occupied the whole of the outer surface of the bone, filling the supraspinous and infraspinous fossæ, and sent out a nodulated outgrowth into the axilla. The action of the left arm was much impeded. No swelling of the corresponding lymph-glands could be made out. On account of this, and of the slow growth, and the yielding consistence of the tumour, Dr. Schneider regarded the affection as sarcoma of the scapula. On December 3, 1873, the whole of the diseased bone was excised. The first incision was made along the base of the scapula; the second was commenced at the acromion, and carried horizontally along the upper margin of the tumour to the commencement of the first incision. A flap was thus formed, the free apex of which corresponded to the upper and inner angle of the scapula. The portion of tumour which projected beyond the upper margin of the bone was then exposed. The muscles attached to the inner and outer margins of the scapula were next divided. As the acromion, the neck of the scapula, and the acromial part of the clavicle had become involved in the tumour, it was found necessary both to open the shoulder-joint and to remove a portion of the clavicle. The deltoid muscle was cut through at its upper part, and the clavicle exposed and divided at an apparently healthy part. The articular capsule was now exposed, and the long tendon of the biceps muscles, and the tendons of the muscles inserted into the great and small tuberosities, were cut through. The articular capsule was then completely separated from the margin of the glenoid cavity. The axillary portion of the tumour was dissected out with great care, in order to avoid wounding any of the large vessels of this region. The tendons of the muscles attached to the coracoid process having next been dissected, the separation of the tumour from the side of the thorax was easily effected. The supraspinatus, infraspinatus, and subscapularis muscles were wholly removed. During the operation, the subclavian artery was compressed against the first rib. A spray of carbolic-acid solution was played upon the wound during the operation. The vessels were closed by carbolized catgut, and the dressings were strictly according to Lister's plan. The operation lasted for little more than half an hour, and the hemorrhage was very slight; consequently there was no subsequent collapse. The boy did well from the sixth day after the operation, and on January 26, 1874, was regarded as cured. At this date the parts about the seat of operation were quite sound; the left shoulder was somewhat more depressed and less rounded than the right. The outer extremity of the clavicle, on which was fixed the head of the humerus, was directed backwards. The left arm was as large as the right. The left arm could not be abducted to any great extent, though by passive movement it could be easily elevated to the horizontal position. The humerus could hardly be moved, either forwards or backwards. The hand could be raised to the mouth and occiput through the free movement of the forearm.

On subsequent microscopical examination, the tumour presented the structure of a lymph or granulation sarcoma, which had undoubtedly been developed between the periosteum and the surface of the bone. The main elements.

were small ovoid cells filled with glistening protoplasm. The basis substance in the intraperiosteal portions of the growth was very delicate and soft, and on the extraperiosteal portions tough and fibrillated. In the course of a few weeks after the operation, the disease returned in the left shoulder, near the cicatrix, and at the same time a diffuse, doughy, and painful tumour appeared at the upper part of the right tibia. These growths increased rapidly in size, and the patient's general health became much impaired. On April 20th he succumbed, death having been preceded for some weeks by pain in the back, great prostration, and paralysis of the bladder and lower limbs. At the *post-mortem* examination, secondary growths were found in the lungs, on the anterior surfaces of the fourth and sixth dorsal vertebræ, and on the posterior surface of the sixth dorsal vertebra. The deposit in the last-mentioned situation had considerably contracted the calibre of the vertebral canal.

Dr. Schneider states that this is the nineteenth reported case of excision of the scapula, with preservation of the upper limb. The whole scapula, with the exception of the coracoid process, was first removed by Von Langenbeck in 1850, and the whole bone, together with a portion of the clavicle, was extirpated by the same surgeon in 1855. The scapula has been removed in two cases on account of caries, once on account of some obscure tumour, three times on account of enchondroma, once on account of an osteo-fibroid growth, and in thirteen cases on account of sarcoma or carcinoma. Of the nineteen subjects of these operations one only died from the immediate effects. Two patients died from pyæmia, and one in consequence of bronchitis. In one case the disease returned in the wound made in the operation, and the patient speedily died. The remaining patients recovered from the effects of the operation, and were at least temporarily cured. Dr. Schneider holds that the risks are smaller with total than with partial removal of the scapula. The hemorrhage during the former operation is not very formidable, if the subclavian artery be compressed.—*Lond. Med. Record*, Oct. 21, 1874.

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Excision of Scapula; Contribution to the History of Complete Removal of Scapula, with Preservation of the Arm.

Prof. MICHEL, of Nancy, presents (*Gazette Hebdomadaire*, July 3, 1874) under this title a very interesting and valuable paper. The history of the operation, and opinions for and against it, are first given, and then a series of eleven cases, in which the operation had been performed by Langenbeck, Syme (twice), Heyfelder, Jones, Hammer, Schuh, Michaux, Stephen Rogers, Schuppert, and the author.¹ The patient, who when first seen was fifty years old, had a good family history, and good health till about five years previously. He had first a fall on the shoulder, and, secondly, was run over the same shoulder by a heavy carriage. The tumour, described as a cystic myeloid degeneration of the scapula, had obtained considerable size, was suppurating freely, and exhausting the patient.

The operation was performed by free dorsal incisions, giving complete access to the bone, sawing through the outer third of the clavicle, clearing the axillary margin of the bone; and, lastly, disarticulating the shoulder-joint. The operation lasted only ten minutes, little blood was lost, and only one artery was tied. He made a tedious, but complete recovery, and has a remarkably useful limb. From an investigation of all the eleven cases, the author comes to the following conclusions:—

1. That the operation is a beautiful application of conservative surgery.
2. That it is not so dangerous an operation as might be expected.
3. That while, as in other malignant diseases, the operation is powerless to prevent recurrence, in other cases the future results of the operation are very remarkable.
4. It should be considered a justifiable operation, for which distinct rules can be laid down, and which it is not difficult to perform.—*Edinburgh Med. Journ.*, Nov. 1874.

¹ This list is not complete, nineteen cases at least being on record.—Ed. E. M. J.

On Amputation of the Humerus by Elastic Ligature.

In No. 30 (1874) of the *Gazetta Medica Italiana Provincie Venete*, Dr. GRANDESSO-SYLVESTRI describes the case of a man, aged thirty, the subject of caries of several ribs and of the left elbow-joint, in whom threatening symptoms of pyæmic poisoning appeared. The elbow being the seat of severe and obstinate pain, Dr. Grandesso-Sylvestri considered that amputation was indicated; but, as it was evident that the patient could not bear the loss of blood, he decided on using the elastic ligature. An India-rubber thread surrounded with linen thread, having a diameter of about two twenty-fifths of an inch, was passed twenty times round the arm, below the insertion of the deltoid. The patient, who had taken nearly two drachms of chloral hydrate, felt the application of the cord, but did not give any signs of pain. Dr. Grandesso-Sylvestri calculated that the cord acted with an equal pressure of twenty-one kilogrammes (about 46½ pounds).

The next day the patient was free from fever, and had a good appetite. The limb immediately below the ligature was dead. Grandesso-Sylvestri then removed the forearm, and took away from the arm half of the soft tissues remaining under the ligature. On the sixteenth day, the ligature had reached the bone; on the thirty-ninth day, the bone was loose; and on the fortieth day, it fell off with the ligature. The stump was cicatrized posteriorly; but on the anterior part had a dirty aspect, and the end of the bone protruded nearly an inch. During the process of detachment, there was rather severe pain. The wound was dressed with calomel powder and dry charpie; the stump became clean; and when the case was described, healing was nearly complete, and the bone had ceased to protrude.

Dr. Grandesso-Sylvestri believes that the process might be shortened by cutting through the bone when the soft parts have been divided by the ligature; but he prefers waiting for the bone to fall off of itself, as in this way it is divided more smoothly.

In giving an abstract of the case in the *Gazetta delle Cliniche* for September 22, Dr. DANIELE BAIARDI remarks that all surgeons allow that an operative procedure is the more to be recommended if it be simple of performance. In this respect Dr. Grandesso-Sylvestri's plan is no doubt superior to every other. It gives greater security against hemorrhage than the galvanic cautery, especially when the artificial production of local anæmia is not employed. The operation, however, has the drawback of being slow, and of keeping a diseased part long under the patient's observation. In the case related, there was severe pain during the prolonged action of the elastic cord. Grandesso-Sylvestri did not have recourse to the "bloodless method," fearing that noxious principles would be carried into the circulation, and increase the danger of the patient; but it will occur to every one that he might have applied an elastic tube (as has been done by other surgeons) and completed the operation without hemorrhage in a very short time, and with less trouble.—*London Med. Record*, Nov. 4, 1874.

On a Rare Form of Nævus.

Dr. E. GEBER, of Vienna, describes in the *Vierteljahresschrift für Dermatologie und Syphilis* (1874, Part I.), under the title of "A Rare Form of Nævus," the following remarkable case:—

Mathilde Z., eight years old, was the eldest child of healthy parents, living in Silesia. She was perfectly well till she was nearly two years old, when her skin became discoloured round the eyes. This gradually increased, but was regarded as rather a blemish than a disease. The child was, however, soon afterwards attacked by catarrhal ophthalmia, with photophobia, and was carried to a doctor, and suffered many things at his hands for six months. Her skin was then as piebald and her eyes as bad as ever, and by the time she was four years old the patches of pigment had overspread the face, and appeared on the neck and on one hand, while her photophobia rendered her almost blind. Small tumours also appeared on the face, and rapidly increased in size

and number. The parents then took Mathilde to consult Professor Hebra in Vienna, and he, "having seen cases of the same kind and treated them without result," advised them to abstain from active interference. Three years later the child was still worse, and a sister (of whose case we shall speak presently) being attacked with a similar disease, they were both taken to Vienna, and admitted to the General Hospital. Soon after, in June, 1873, when Mathilde was seven years old, Professor Billroth excised two nodules from the cheek, which were ascertained on microscopical examination to be "sarcomatous growths." A month later, the wounds having healed by granulation, she was transferred to Professor Hebra's department.

Her condition was then described as follows: She was small, fairly nourished, and had abundant black hair. The scalp was covered with minute patches of discoloured skin; the face was affected in the same way, the spots varying from a pin's head to a pea in size, yellow, brown, or black in colour, flat, or slightly raised, or depressed in the centre. Scattered among these were pale, shining, depressed spots and lines (answering by description to labour-marks, or to the "linear atrophy of the skin" described by Dr. Wilks); and here and there were seen stigmata of dilated capillaries. The skin could be easily raised, and appeared of normal consistence, and there was plenty of subcutaneous fat. Scattered over the face were numerous nodules, the smallest not bigger than millet-seeds, the largest three lines in diameter, movable, subcutaneous, painless, and firm. These tumours were confined to the face, but the piebald appearance above described extended more or less over both upper extremities and the trunk. The legs showed numerous atrophic patches, but very little of pigment or dilated capillaries. Similar vascular spots were found on the mucous membrane of the palate and cheeks, unaccompanied by deposit of pigment. The conjunctival irritation and photophobia were as bad as ever. The internal organs appeared to be healthy.

Three months later, the vascular and pigimentary spots had diminished, and the atrophic patches increased.

Perhaps the most singular feature of the case is that Mathilde's sister, Laura Z., aged five years and six months, had suffered for a year and a half from the same remarkable affection. Two other younger children were perfectly healthy. In Laura the ophthalmia, the spots of pigment, the dilated capillaries, and the atrophic patches were like those of her sister in character and in distribution. She had a single nodule on her face. The only difference between her condition and that of her sister was that her right foot was clubbed.

Microscopical examination of pieces of the skin affected with melasma, showed that the deeper layer of epidermis was full of pigment, very thick, and prolonged in the form of conical processes into the subjacent corium. The papillary layer of the latter was full of round cells deeply stained with pigment, and there were also numerous stellate and polygonal pigment-cells, especially around the bloodvessels. The latter were much thickened, the epithelium of the inner coat being so much increased in volume that it was often observed to block up the lumen of the arteriole. Dr. Geber describes these epithelial cells as sending out processes which grew across the vessel to the opposite side, and as usually possessing from two to four nuclei. Deposit of pigment was especially abundant around the hair-follicles and the sudoriparous and sebaceous glands. The acini of the latter were swollen. The atrophic patches were shown by microscopic examination to be what clinical observation had indicated, the results of involution of the vascular pigment-spots. Here the granulation-cells of the cutis were filled with fatty molecules or had disappeared, the pigment was fading, and the whole appearance pointed, in the author's judgment, to a premature horny metamorphosis of the epithelial cells.

Dr. Geber knows of only four other cases comparable to the two he details. One is mentioned by Mr. Erasmus Wilson ("Lectures on Dermatology," 1871, p. 97) as one of atrophy of the skin in a patient affected with carcinoma. The others (unpublished) occurred last year in Professor Hebra's wards. Two were women of low stature and dark complexion, both the subjects of cancer.

The third was also an adult, and under treatment for lupus erythematosus. Unfortunately no further description of these cases is given, but it is implied that they, like Matilda and Laura Z., were affected with patches of pigment, and dilated vessels, alternating with atrophic bands.—*London Med. Record*, Nov. 11, 1874.

A Modification of Squire's Vertebated Catheter.

Dr. GEORGE COWAN, of Danville, Ky., describes (*American Practitioner*, Dec. 1874) his modification of Squire's catheter (*American Journ. of Med. Sci.*, April, 1874), which essentially consists in the following particulars:—

1. In Cowan's instrument the chain and rod of the ordinary jointed catheter are dispensed with; the vertebated portion consisting of two series of rings or tubular sections, the one being internal, the other external. The internal sections are flanged, or trumpet-mouthed, at each extremity, and constricted in the middle. The external sections are oval in their shape, and inclose the former, so that they interlink and dovetail with each other in such a way as to form one continuous hollow or tubular chain of great strength and flexibility.

2. This method of uniting the sections admits of the introduction and use of a straight canula inclosing a steel spring curved, so that when the latter is freed the jointed or vesical end of the catheter springs into a curve.

By means of this combination the flexibility of the catheter can be modified almost to any extent at pleasure as it passes through the urethra. In the first place, it is a straight and perfectly rigid instrument, in which condition it may be passed through the straight portion of the urethra as a probe. To enable it to enter the membranous or curved portion of the urethral canal, the canula is withdrawn as the instrument is propelled onward, thus forming itself into a curve, as the distance traversed requires, until the spring, when finally freed from the canula, forms the curve before mentioned.

The spring acting as thus described causes the beak of the catheter in its passage to hug closely the superior surface, which forms the shorter curve of the urethral canal; and, lifting it up out of the way of the middle lobe of the prostate, it turns sharply, of its own self-acting property, upwards as it passes into the bladder. Should obstructions be met with which arrest the passage of the instrument thus arranged, by withdrawing the curved steel spring itself from within one or more of the sections, as the surgeon may choose, these sections are finally freed from any limiting or directing control, and they can now turn in any direction, passively adapting themselves to the passage.

Midwifery and Gynæcology.

On the Causes of Error in the Diagnosis of Pregnancy.

In a previous paper, Dr. PAJOT discussed the more ordinary and well-known conditions which render the recognition of pregnancy at times difficult. In this paper (*Bulletin de l'Académie de Médecine* for June), he proceeds to treat of the more exceptional instances, and mentions a symptom, which he designates "choc fœtal," or fœtal impulse, discoverable between the fourth and fifth month of gestation, as highly diagnostic, and, when once heard, as certain a sign as the sounds of the fœtal heart. The *modus operandi* he gives with great precision.

The writer instances *extreme thinness of the uterine walls* as an occasion for error. It is a rare condition, and, when met with, the enlarged uterus is not unfrequently mistaken for a cystic tumour. The extent to which this can go is marvellous, the fœtus appearing to be just beneath the skin. The death of the fœtus within the first few months renders diagnosis extremely difficult and

obscure. The chief thing is to decide whether the tumour is the uterus or not. This is best effected by placing the pruned left hand on the abdomen, so as to grasp the fundus with the tips of the fingers, and with the right index finger to push up the cervix. Any impulse given is immediately perceptible. Then the order is reversed, keeping the right hand fixed and making movement with the left. Velpeau maintained that by this means the uterus could be as easily measured as if it were on the table.

It should always be remembered that the body of the normal non-pregnant uterus cannot be felt in any of the culs-de-sac when digital examination is only lightly made, so as to put the pouches gently on the stretch. This arises from the junction of the body and the cervix being the narrowest part of the uterus. If the body be easily felt, it is either a pathological or a physiological condition, and requires the greatest care and nicety to decide which it is. Pregnancy being diagnosed, M. Pajot strongly urges that the waters should not be ruptured or labour hastened when the fœtus is dead, as septic poisoning is very liable to occur from rapid decomposition of the macerated fœtus. As long as the membranes are intact, maceration may go on with impunity.

[Various authors have published undoubted cases of septic poisoning of the mother from decomposition of the fœtus, although the waters had not ruptured. Dr. Fordyce Barker, in his work on *Puerperal Diseases*, relates two instances as occurring in his practice.]

"Choc fœtal" is evidently a movement of the fœtus, but of its exact nature the author is ignorant. It is only discoverable by aid of the stethoscope, and, when once heard, although a very delicate sign, it is a sure indication of pregnancy. The following precautions are necessary to catch this movement, which strikes the ear to be a double sensation, a cross between a jerk (*choc*) and a "bruit brusque," but of extreme lightness (*légèreté*), giving the impression that it is of a semi-tactile and semi-auditory nature. It is entirely distinct from all other sounds or sensations perceptible in the abdomen. The stethoscope has to be placed perpendicularly on the most prominent part of the tumour, and carefully poised until the ear is brought to bear on it, care being taken that the foot-piece lies flat on the abdominal walls. Pressure is now gently made with the *head*, so as to press the abdominal walls slightly against the uterine, but no further. At times one has to grope about to catch it, as with a specimen under the microscope. To educate the ear, it is better to study it between the fifth and sixth month of gestation, as the sensation is much more perceptible, but duller, "*brusque soubresaut*." Whenever there is doubt respecting a pregnancy, a decided answer should never be given, as in all obscure cases *time* is the best means of diagnosis.—*London Med. Record*, Sept. 9, 1874.

On Ovarian Pregnancy.

At the meeting of the Berlin Obstetrical Society on January 27 (*Berliner Klinische Wochenschrift*, June 15), Herr VON HASELBERG demonstrated a preparation of ovarian pregnancy. The woman was twenty-six years old, and had given birth to two children previously. She thought herself pregnant about three months. She was suddenly seized with great pain in the abdomen, accompanied by a bloody discharge *per vaginam*, and the passage of a clot. The pain increased; and when first seen the patient was pale and pulse frequent, the abdomen very sensitive. *Per vaginam* a tender, uneven, movable tumour was discovered. She died four days afterwards. The *post-mortem* examination discovered a considerable amount of recent and old clots in the pelvic cavity. Behind the uterus there was a tumour about the size of a fist, with two small rents on its upper surface; within was an ovum containing a fœtus about 12 inches long. No tube could be found. That an ovum had developed in the ovary, was proved by discovering a corpus luteum alongside of the cavity.—*London Med. Record*, Aug. 19, 1874.

Remarks on the Course and Treatment of Labour in the Contracted Pelvis.

Prof. SPIEGELBERG in a paper on this subject (*Archiv für Gynäk.*, Bd. iv. Heft 2) says there are three forms of contracted pelvis which we often meet in practice, viz.: 1. The simple flat pelvis (rickety or not). 2. The uniformly and generally contracted pelvis. 3. The generally contracted and flat pelvis.

In the first form it is the anterior part of the head which is engaged at the inlet; the chin is easily separated from the breast; the large fontanelle comes lower down than the small, and the coronal suture approaches the conjugate. The head is freed thus—the sagittal suture comes more forward, the occiput moves more backwards. Labour here may end spontaneously. If interference is required, the forceps can only exceptionally be used. As a rule, the head must be lessened. If the difficulty is recognized sufficiently early, we should have recourse to turning.

In the second form, where the pelvis is generally contracted, the head meets an obstacle in all its circumference as it enters the pelvis. The head is strongly flexed, and may be represented by a wedge, the occiput is presenting, and the face is directed to the fundus of the uterus. Here the hinder part of the head is first engaged. Here impaction of the head is most to be dreaded, and we must often have recourse to craniotomy.

In the third form we have the anterior or the posterior part of the head first engaged, according as the flattening or the general contraction predominates. At times this may bring about the presentation of the head in a position inclined to one side, and we have “a presentation of the ear.” If such a presentation is detected in time turning should be performed; if not, we must perforate.

The treatment in contracted pelvis may be thus enunciated: It will often be necessary to perforate; that version should be reserved for certain fixed cases, and that the use of the forceps should be rejected.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1874.

Cæsarean Section successful both for Mother and Child.

Dr. JACOBS, of Cologne, reports that a woman, æt. 42, multipara, was delivered two years before with difficulty by the forceps. The conjugate diameter was barely two inches; the horizontal rami of the os pubis were so driven inwards that the symphysis pubis projected like a beak. A careful examination showed that she was suffering from osteomalacia of the pelvis. As the child was living, it was, after consultation, decided to perform Cæsarean section. The patient was placed under chloroform, and the abdomen was rapidly divided through the linea alba, care being taken to empty both bladder and rectum previously. The incision into the uterus struck upon the placenta, which was detached as far as was requisite to remove the fœtus. The placenta was removed immediately after the delivery of the fœtus, without any difficulty. The uterus was then compressed and squeezed downwards. No sutures were placed in the uterus, only in the abdominal walls, which were brought together in the usual manner. There was some sickness from the chloroform, which was arrested by the internal and external administration of ice and ice-water. Only a portion of the abdominal wound healed by first intention; the rest granulated. Dr. Jacobs considers that the successful result was mainly due to the rapidity with which the operation was performed, and the application of ice.

[This is the third successful case that has been reported lately; two were by pupils of M. Depaul, who strongly advocates the immediate removal of the placenta and the non-use of sutures to the uterus. He also recommends the insertion of a long seton through the two wounds, and out through the vagina. This method was adopted in each of the cases of his pupils.]—*London Med. Rec.*, Nov. 25, 1874, from *Berliner Klinische Wochenschrift*, Oct. 19, 1874.

On a Successful Case of Cæsarean Section.

Dr. T. MAYER (*Archives de Tocologie*, September, 1874) relates a case in which Cæsarean section was performed on a married woman, aged thirty, about

three feet high, the subject of acute antero-lateral curvature of the lower third of the spine. She would not submit to the induction of premature labour. An incision six and three-quarter inches long was made on the mesial line, beginning about four-fifths of an inch below the navel, and extending to within half an inch of the pubes. A strong effort of inspiration at the moment of opening the abdominal cavity nearly protruded the whole of the intestines, which were with difficulty restrained. An incision was next made in the median line of the uterus, care being taken not to injure the bladder. The membranes had been ruptured previously to beginning the operation, and all the amniotic fluid drained off. Not a drop of blood or of liquor amnii escaped into the peritoneum. The sides of the wounds were well sponged with cold water to check bleeding. The membranes were then divided by means of the stylet. The placenta was removed with slight loss of blood, the hemorrhage being checked by cold applications, and the uterus made to contract firmly. A seton was introduced through the vagina and the uterine wound, being fastened externally above the pubes. The sutures were passed through the abdominal walls only. On the sixteenth day the drainage-tube was removed. The woman recovered without any symptoms of metritis or peritonitis, or hemorrhage. She had severe diarrhœa, and with it the left leg became affected with phlegmasia dolens.

The village and the house in which she was operated on were of the most unhealthy description. The room, however, was of fair size.—*London Med. Record*, Nov. 18, 1874.

Eclampsia Parturientium.

Dr. ATENSTADT states that Frerich's view that where there was "no albumen, no eclampsia occurs," was formerly very generally accepted. Dr. A.'s observation, however, as well as that of many others, is opposed to this. Wunderlich states, for example, that not only are there no convulsions in many pregnant dropsical patients, and in others suffering from Bright's disease, but convulsions are by no means common even in non-pregnant patients suffering from Bright's disease. Blot, out of 205 cases of pregnancy, noted the presence of albumen in the urine in forty-one cases, yet only seven suffered from eclampsia. Litzmann ascertained that albumen was present in the urine in thirty-seven out of 131 pregnant women, and yet eclampsia occurred only in twelve. Spiegelberg holds that our knowledge of puerperal eclampsia can only attain full development if we start from the proposition that the group of symptoms we term eclampsia has no single cause, but depends on various circumstances which should be made out in each instance. Traube and Rosenstein do not regard the blood as primarily at fault, but refer eclampsia to hyperæmia of the brain resulting from exaltation of pressure in the aortic system, which again, in consequence of the watery character of the blood in pregnancy, leads to acute œdema of the brain. Dr. Atenstätt gives the details of several cases that occurred under his care, and from the phenomena presented by them, which appear to have been observed with great care, he draws the following conclusions: 1. The occurrence of eclampsia is connected with the progress (*entfaltung*) of pregnancy. 2. Acute convulsions with short pauses between them induce labour pains by exciting the uterine nerves. 3. The convulsions of eclampsia are always coincident with very energetic labour pains, and an absence during the pauses. 4. Elderly women carrying their first child, with rigid, unyielding uterine fibres, as well as plethoric subjects, are predisposed to eclampsia. 5. Manual or instrumental excitation of the os uteri and cervix may produce fresh and more general convulsive attacks. 6. Mechanical impediments to delivery—sharp edges of the cranial bones, pressure of the chin in face presentations—frequently give rise to eclampsia. 7. Attacks of convulsions are for the most part connected primarily with retarded dilatation of the os uteri. 8. When the head is high, and *ballotement* can be felt, turning should be adopted; when the head is low, and the os is sufficiently dilated, the forceps should be at once applied, even in face presentations. 9. Eclamptic convulsions are not always arrested by the completion of the act of delivery. 10. The *ac-*

couchement forcé is the *ultimum refugium* of an attack of convulsions. 11. Sudden depletion of the vascular system by means of venesection seems to be indicated in women who are plethoric and robust, but it is not always effective in cutting the attack short or in preventing its evil results. 12. Active local depletion by means of leeches below the ears, with steady application of ice to the head, is preferable to venesection. 13. Revulsives applied to the skin are too slow in their action to be of any service. 14. Opium and its preparations may be employed to induce quiet after venesection or other methods of withdrawing blood, otherwise they tend to increase the congestion of the head. The subcutaneous method is the best method of administration. 15. Chloral appears lately to have been used with advantage in the form of clyster in some cases, and the same may be said of the application of chloroform in moderate quantity. 16. There are no certain signs of an impending attack of eclampsia. —*Practitioner*, Dec. 1874, from *Der Practische Arzt*, No. 5, 1874.

Epidemic Pemphigus of New-Born Infants.

Dr. BESNIER, in his report on the mortality of the Paris hospitals for July, September, and October (during which months the deaths, except from croup, were rather below the average), gives an account of an epidemic of acute pemphigus observed in the lying-in wards of La Charité. He observes (*Union Médicale*, November 17 and 19):—

“Although the vesicular and bullous affections of the skin which are observed in young infants have formed the subjects of numerous investigations, their history nevertheless continues obscure. It may be affirmed that the majority of practitioners are acquainted with the different species or varieties of these affections only in the most imperfect manner; and it is useless to seek for an authoritative exposition of the real state of the question in the works of the most recent authors. It comes out, however, pretty clearly, from the examination of the facts, that besides ordinary varicella, and vesicular erythema, or pseudo-varicellas, whether connected with dentition, disturbances of digestion, or morbid conditions as yet ill-defined; besides common chronic pemphigus, and especially besides congenital syphilitic pemphigus and the cachectic pemphigus of syphilitic infants, there exists another kind of bullous affection proper to young infants, never developed until some days after birth, generally (but not, as seems to be supposed, always) benign, and corresponding more or less exactly to the really existing although contested affection known as acute pemphigus of adults.

“The acute pemphigus of new-born infants is characterized clinically by the development, with or without fever, a few days after birth, on vigorous and healthy as well as on sickly infants, of bullæ which may be solitary or very numerous, isolated from each other, preceded, surrounded, or becoming secondarily surrounded by erythematous redness, and having their seat on any part of the integument, the hairy scalp inclusive, but seeming never to affect the palms of the hands or soles of the feet, nor ordinarily the mucous membranes. The mean size of the bullæ is that of half of a large pea or of a hazelnut, their contents being transparent, and ordinarily of a grayish or citron colour. They are evolved in crops, as in common pemphigus or in varicella with multiple crops, their evolution, rupture, and desiccation exactly resembling those of intense varicellas or of pemphigus levissimus. Exceptionally, the eruption is in itself sufficiently considerable to become a cause of death; and the general prognosis is based upon the state of the infant at the time when it is attacked. The total duration of the affection varies from a week to three or four weeks, or perhaps more. . . . Scarcely is the nature of the affection established than new difficulties arise respecting it. Not only is it not always benign, and may terminate fatally; but it may be observed not only in the sporadic, but the epidemic form, and may be regarded as contagious. So that it becomes necessary to inquire in these cases, which are quite identical in the sporadic and epidemic condition, whether we have really to do with a pemphigus, with a new affection yet to be determined, or with a form of varicella deriving its

intensity or its gravity either from the puerperality of the infant or from its new-born condition."

M. Homolle supplies an account of the epidemic in question. It seems that seventy-nine births took place, and that for an infant not to be attacked was quite the exception, vericella not existing in the wards at the time of the outbreak. The eruption exhibited very different intensity in different cases, the bullæ appearing from the third to the sixth day, successive crops being observed in some cases during one or two weeks or more. In some cases the affection presented almost a varicelloid character, so small and regularly hemispheric were the bullæ; while in other parts of the body of the same child, or in other children, there were large surfaces rendered raw, as if blisters had been applied. In most of the infants the health and functions were not at all interfered with, the children continuing to thrive while exhibiting even large bullæ. One infant died about twenty-four hours after an abundant eruption of bullæ had covered the trunk and lower extremities, the dermis at the time of death being denuded over almost the whole body, just as if the child had been plunged in boiling water. The autopsy furnished only negative results, among which were the entire absence of any lesion of the mucous membranes, which were examined throughout their entire course.

M. Besnier gives an interesting sketch of other epidemics which have been recorded, but arrives at the conclusion that to establish the nature of the affection, and to determine whether it should be completely separated from the vari-cellas or be considered as an exceptional and special form of these affections, more investigation is required.—*Med. Times and Gazette*, Dec. 5, 1874.

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Death following a Vaginal Injection.

The following case is recorded (*Allg. Med. Central-Ztg.*, I, 1874) by LORAIN as one of those occasional instances where death has apparently been due to some mild manipulatory procedure on the female genitals.

A young girl, sixteen years of age, of delicate constitution, and who had commenced menstruating three months previously, entered the hospital to obtain treatment for vaginitis. A decoction of althæa was employed as an injection at first, but it was soon changed for a solution of nitrate of silver (gr. x- $\frac{5}{16}$). This fluid was injected without force, the greater part returning through the vagina. Immediately afterwards, however, the patient complained of pain in the belly, and it increased so violently that she tossed about in the bed, her eyes became fixed, the skin became cold, the pulse small, and the face pinched. These severe symptoms abated after three hours; but vomiting then set in and continued, though in the following day the pain in the belly had moderated. Some days after, while the vomiting was still persisting, and she was suffering great distress, she gave a sudden cry and died. Tardieu made the autopsy, and found a purulent inflammation of the mucous membrane of the uterus, and the Fallopian tubes filled with pus. They were discharging into the peritoneal cavity, and there was diffuse peritonitis.—*Med. Record*, Dec. 15, 1874.

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On Drainage of the Abdominal Cavity.

In No. 38 of the *Berliner Klinische Wochenschrift* (September 21, 1874), Dr. EUGENE HAIN, of Berlin, communicates a case of ovariectomy in which he put in practice the intraperitoneal injections recommended by Peaslee, and the drainage of the abdominal cavity, recommended by Marion Sims in 1873. Sims shows that twenty-four of the thirty-eight fatal cases amongst Spencer Wells's operations, died from septicæmia (Beigel's translation). Nussbaum says that his twenty-eight deaths after ovariectomy all resulted from the same cause. He thinks that twenty-three of them might have been saved by the use of the drainage-tube. Spiegelberg, in his pamphlet on the diagnosis of cystic myomata of the uterus, says that eight out of fourteen fatal cases were so from septicæmia, and might have been saved by drainage and the use of disinfectants. This treatment is applicable to many other cases than ovariectomy; in

fact, to almost all in which the abdominal cavity is laid open; such, for example, as the operation for strangulated umbilical hernia. The subject of the ovariectomy was a midwife, who had noticed the tumour about two and a quarter years before. It was then of the size of a hen's egg, and was first noticed in the left side. After the birth of her fourth child (November, 1873), it enlarged with great rapidity. In April, 1874, about three gallons of colloid brownish fluid were removed by tapping. Some small cysts could be felt through the abdominal walls. Three months afterwards the tumour was as large as ever. Ovariectomy was therefore resolved on, and carried out in a private house. The abdomen then measured nearly forty-eight inches. An incision of about six and a half inches long was made in the linea alba, and through this the tumour was removed. The right ovary proved to be healthy. As there were numerous adhesions, Dr. Hahn resolved on drainage, and passed the index and middle fingers of his left hand through the wound behind the uterus to the deepest part of Douglas's pouch, and introduced the corresponding fingers of his right hand *per vaginam*, so as to meet them. A curved trocar and canula were then passed, the fingers guiding them, through the pouch of Douglas into the vagina, and the trocar withdrawn. About two feet of drainage-tube, $\frac{1}{2}$ th of an inch in diameter, with numerous perforations, were passed through the canula. Through this tube, the upper end of which was secured at the lower edge of the incision, a solution of carbolic acid (1 to 1000) was injected, till the fluid returned colourless. In the first four hours, nearly $2\frac{1}{2}$ pints of fluid escaped from this tube. The carbolized injections were repeated several times daily. On the fourth day, in the absence of discharge, and all injected fluids returning colourless, the drainage-tube was withdrawn, but a silver wire was left in its place, as a means of reintroducing it if required. On the eighth day, even this was withdrawn. On the next day after the operation her pulse was 84, and her temperature only 100.8° Fahr., in the evening pulse 92, temperature 100.4° ; whilst next day the temperature was normal, and the pulse did not exceed 80 after this date. The patient was fed for the first two days by clysters of two tablespoonfuls of brandy, with soup and eggs, every three hours. Thirst was relieved by ice. The sutures were removed on the fourth day; the clamp on the twelfth. The bowels acted on the seventh day after medicine given for that purpose, and after this she took solid food. The catamenia followed on the fifteenth day, and she returned home in good health on the twenty-fifth day.—*London Med. Record*, Dec. 2, 1874.

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The Diagnosis of Cystic Myomata of the Uterus and their Intraperitoneal Enucleation. A new Method of Operation.

Prof. OTTO SPIEGELBERG reports (*Arch. f. Gyn.* vi., 3, 1874) the following case. A patient with a supposed ovarian tumour was subjected to ovariectomy, January 18, 1874. On opening the abdomen the ovaries were found to be unconnected with the tumour, which arose from the posterior aspect of the uterus, from three centimetres below the fundus to the insertion of the vagina, extended upwards twelve centimetres above the umbilicus, was covered entirely by the uterine peritoneum and the posterior layers of the broad ligaments, and was distinctly ascertained on incision and puncture to be a cystic tumour of the uterus. After a bucket had been half filled with the dark-yellow fluid from the tumour, which flowed from numerous punctures and coagulated at once and completely (Atlee's test for fibro-cystic growths of the uterus), the growth, which looked on its cut surface like a coarse sponge, was drawn out, ligated, and removed with the knife. Diffuse hemorrhage called for the removal of the remainder of the tumour, which was accomplished with the fingers and the handle of the scalpel; a piece of the size of the fist being enucleated without removing any portion of the uterus itself. The large cavity on the posterior surface of the uterus was closed by eighteen deep silk sutures through the peritoneal envelope, and the hemorrhage thus arrested. The sutures were carried out of the abdominal wound, and a drainage-tube passed from the latter through the recto-uterine pouch into the vagina. The abdominal wound was closed in the usual manner.

The patient nearly succumbed to an apparent septic infection on the second day, but rallied after a copious discharge of serous, offensive fluid from the drainage-tube and abdominal wound, and promised to recover. On the sixteenth day she suddenly died during the night, as S. supposes, in consequence of pulmonary embolism from a pelvic thrombus, for an autopsy was not obtained.

A macro- and microscopic examination of the tumour showed it to be a *myo-sarcoma lacunare vel cysticum*.

The diagnosis of cystic fibromata of the uterus by means of physical examination alone is impossible (Péan and Spiegelberg both acknowledge this), and they are generally taken for ovarian tumours, and their true nature discovered only when the abdomen is opened for ovariectomy. The test first mentioned by Atlee, and afterwards corroborated by Spencer Wells, Koeberle, and Peaslee, *the rapid and complete coagulation of the fluid*, its character and transuded fluid, dark-yellow colour, transparency, the abundance of fibrine and albumen contained in it, and the poverty of morphological elements, blood-cells, connective-tissue cells, etc., all these characteristics point out the fibro-cystic nature of the tumour. The explorative puncture, therefore, is the only certain diagnostic test for uterine cysts.

The operation of *enucleation with suture of the peritoneal envelope of the cystic tumour* is claimed by Spiegelberg as a new method, and is declared much more favourable for recovery than the removal of a portion or the whole of the uterus; it might be employed also after the excision of the bulk of solid uterine tumours through an abdominal wound.

Sims has enucleated small cysts of the posterior uterine wall and broad ligament, but has used their serous envelope as a pedicle which he attached to the abdominal wound; once only did he unite the wound left after the enucleation of a very small cyst with sutures which were left "*perdues*" in the abdominal cavity.

If the sutures are to be left in the abdomen, catgut would be preferable; if silk is used, the sutures should be passed through into the vagina, and would thus assist drainage. In this case they were passed out of the abdominal wound, because after the operation the uterus stood very high, almost in contact with the abdominal wall.

In conclusion, Spiegelberg avows himself an enthusiastic adherent of the system of vaginal drainage in ovariectomy recommended by Sims, and is confident that the eight cases of ovariectomy which he lost in consequence of septicæmia would have been cured if drainage and careful washing out of the peritoneal cavity had been employed. He says that in future he will use Sims's method in every case of complicated gastrotomy, and considers it to be an extraordinary advance in intra-peritoneal surgery, "an additional leaf in the crown of merit of the celebrated American gynæcologists."—*Amer. Journ. of Obstet.*, Nov. 1874.

— Solid Tumours of the Ovary.

Solid tumours of the ovary are rare. Dr. LEOPOLD (*Archiv für Gynäk.*, Bd. vi. Heft 2) from the facts he has collected, estimates the proportion as 1.5 per cent. of fluid tumours. He has collected forty-three cases from various sources, and has added thirteen not published before. Solid tumours may be distinguished externally from fluid tumours by their shape; the former retain the natural shape of the ovary, the latter are irregularly rounded. The consistence varies; they may be so soft as to give indistinct fluctuations, or as hard as a stone. The thickness of the external wall varies much, and this the author thinks important as regards the more or less rapid development of the tumours, according to the resistance which it offers. The anatomical relations are much the same as with the fluid tumours. These tumours have at times a short pedicle, and are to be detected between the uterus and the rectum, and may be held immovably fixed there. Such tumours, if carcinomatous, etc., very rarely affect the uterus, which, as a rule, remains perfectly healthy.

Tumours of the ovary may be fibromas, enchondromas, carcinoma, or sarcoma. The fibromas are simple or complex, fibro-myoma or fibro-sarcoma. Two other rarer forms may be added to these, one described by Waldeyer, the other by Spiegelberg. Enchondroma of the ovary is quite exceptional. Sarcoma is supposed to be very rare in the ovary, and little mention is made of it in text-books on gynaecology. The author, who has specially worked at the subject, gives a full account of them. He then describes a previously undescribed form of ovarian tumour, which he calls "lymphangioma kystomatosum." It is characterized by the cystic formation, the dilatation of lymphatic vessels, and a proliferation of the stroma. The author directs attention to the condition of menstruation in women suffering from cysts or solid tumours of the ovaries. We see that menstruation may go on even when the two ovaries are degenerated, and further cases have been reported where menstruation has returned in women who have had both the ovaries removed. From such facts as these he inclines to the belief that menstruation has no direct relation with ovulation. Ovariectomy has been performed eight times for these solid tumours, and in three cases the operation was successful. The Cesarean section was once obliged to be performed on a woman whose pelvis was blocked by a fibroma ossified in part.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1874.

Medical Jurisprudence and Toxicology.

Arsenical Poisoning by Articles of Dress.

The following case of arsenical poisoning, reported by Mr. R. R. CHEYNE, of Nottingham Place (*Brit. Med. Journ.*, Nov. 21, 1874), from wearing a ruby-coloured merino tunic, is entitled to attention as a warning against this too confident use of articles dyed red with coralline dye.

"T. B. M., aged 2 years and 4 months, after some indications of disorder and a few restless nights, vomited several times on October 1st last, and had slight diarrhœa. Vomiting after food continued until the 6th, when it ceased until the 13th. During the same period, there existed depression, anorexia, now and then tremor, or a kind of quivering of the muscles, once a screaming fit in the night (as if from fright), and a state of extreme irritability, with frequent micturition. The degree of illness in the child thus far seemed to be out of all proportion to any discoverable local lesion. On the sixth of the month, however (the day on which the vomiting subsided), he awoke agitated, and, after a warm bath, a rubeoloid rash appeared, succeeded by a cough, which day by day became more troublesome, being most severe for an hour, between 3 and 6 A.M. The eruption was capricious as to its extent and duration, leaving, when absent, a mottled look of the skin, which was also stained by the red dye drawn out of the tunic by the very profuse perspiration characterizing the disorder. It was this latter circumstance, with the fact, now observed, of the recurrence of the vomiting not long after the tunic (which had been left off for several days) was again worn, that led me to the discovery of the real wolf in lamb's clothing with which I had to contend. Upon inquiry, I learnt that this ruby-coloured merino frock was first put on on September 24th, and was laid aside on October 6th, when the little patient was strictly confined to bed. For the week following, there was exemption from sickness; and then (two days after the use of the tunic was resumed) the stomach again rejected food. It seemed likely, therefore, that the gastric disturbance was in some way excited by wearing that particular garment; and if, as I imagined, the existence of arsenic therein could be proved, the case and its treatment would become plain. Of course, the needed proof was now sought, the merino in the process being committed to destruction."

"Decided amelioration of the symptoms followed at once. The vomiting did not recur, the cough subsided, the eruption, less diffused, took the form of patches of erythema, and the perspiration soon diminished. Yet the progress towards recovery was very slow. At the end of the month, there was still but little power of taking food, and an appearance of cachexia, in marked contrast to the fair condition of health presented by the child upon his return from the country a few weeks since. It is to be hoped that a careful tonic treatment, and a stay for some time at the seaside, may do much to repair the mischief and restore the constitution.

"It will be noticed that this case did not present all the symptoms sometimes observed (Taylor's *Medical Jurisprudence*, p. 111) in similar instances of arsenical poisoning. Thus there was no conjunctival irritation, etc. The salient points of the case were depression, sickness, anorexia, profuse perspiration, eruption, cough, nervous irritability, and frequent micturition, leading to and leaving a cachectic state of constitution.

"In the following report of Dr. Dupré, reference is made to a cerise-coloured cashmere frock, as well as to the one now in question, of a ruby-colour. The former had been left off last May, and, therefore, has no relation to the present inquiry. Still it may be supposed that, before the washings to which it had been subjected, it, too, contained more than mere traces of arsenic.

"Dr. Dupré's report is as follows :—

"I have carefully examined the little frocks you brought to me some time since, with the following results. Both frocks are dyed with one of the red coal-tar colours; this particular one is called coralline, I believe. The colour of one frock was tolerably fresh and dark; from the other frock, a great part of the colour had apparently been washed out. The darker one contains 0.048 grain of arsenious acid per square foot. The paler one also contains arsenic, but in excessively minute traces only.

"The evidence I have adduced in the above case clearly, I think, confirms the statement that red, no less than green, colours in articles of dress may contain arsenic, an arsenical mordant being often used to fix the coralline dye, and as such are highly prejudicial (*Gazette des Hôpitaux*).

"Green and (it thus appears) red wall-papers, artificial flowers, linings of caps, cakes, sweetmeats, covered with arsenical green, or packed in arsenical paper, French plums, figs, and other fruits, similarly packed, and other miscellaneous articles, have all been sources of arsenical poisoning. It is also well known that the process of manufacture has a most unwholesome influence, and is fraught with danger to those employed. The question, then, may, with all earnestness, be asked, Are the facts of the great competition in trade and the excessive desire for rich and beautiful colours in the decoration of our houses, etc., sufficient reasons for disregarding the painful lessons of experience? Undoubtedly, there is often great ignorance, if not criminal recklessness, displayed upon this very important subject."

Hygiene.

The advantages of Wooden Hospitals as Disinfectants.

Dr. DAY, in a paper read at the Medical Society of Victoria (*Australian Medical Journal*, August), after stating that pyæmia, erysipelas, and puerperal fever are of infinitely less frequent occurrence in hospitals constructed of wood, says that, looking to chemistry for an explanation, he finds that certain kinds of wood, such as red or yellow deal, American pine, and white deal or spruce, possess the power of acting on atmospheric oxygen and converting it into peroxide of nitrogen—a substance possessed of remarkable deodorizing power. He believes also that it is a disinfectant in the true sense of the word

—viz., that it is capable of oxidizing and destroying zymotic poisons. He has come to this last conclusion from the great success that has attended his plan of treating scarlet fever, by which he has found the spread of the disease effectually prevented. He has the patients freely rubbed over the whole surface of the body with ethereal solution of peroxide of oxygen (erroneously called ozonic ether) mixed with lard in the proportion of one part to eight. This procedure is repeated three times a day, and continued for two or three weeks. The advantages of the plan are, that it enables the patient during the whole period to breathe a pure atmosphere instead of one contaminated by the emanations from the skin; and it provides an effectual means of arresting the spread of the disease. Inunctions with greasy substances have often been so used, and any benefit which has been derived from them has been probably due to the peroxide which they contain; but as the quantity of this found in different fats and oils is very variable, it is better to employ a mixture of a given strength.

In proof that the different kinds of wood mentioned above generate peroxide of hydrogen, Dr. Day applied to various specimens the most reliable tests for the peroxide—viz., the colouring matter of the blood and tincture of guaiacum. Peroxide of hydrogen alone, although a powerful oxidizing agent, is incapable of oxidizing and turning blue the resin of guaiacum; but in the presence of blood it acquires increased activity, and does so readily. When a little watery solution of blood was applied to the specimens, and then some tincture of guaiacum poured over them, wherever the blood penetrated the parts turned blue through the agency of the peroxide contained in the wood. The red or yellow deal, and especially that from the Baltic, furnished the most powerful reaction, and consequently it generates and condenses the largest amount of peroxide. There can scarcely be any doubt that this property of generating peroxide is due chiefly to the turpentine these woods contain. Baltic deal is also a very durable wood, and, placed on a stone foundation, would seem to be preferable to any other material for the construction of hospitals. Soap should never be used for washing the floors of hospitals, as its alkali would destroy the peroxide. The floors should be waxed and polished, which is usually done by first staining the floor with burnt umber rubbed down with linseed oil, and then covering it with a thick paste made of yellow wax and turpentine, which should be well rubbed in, and afterwards polished. As two of these ingredients—linseed oil and turpentine—possess the power of continuously generating peroxide of hydrogen, a floor thus prepared is rendered permanently disinfectant. In hospitals for contagious diseases, also, the bedding may be stuffed with the shavings of Baltic deal or American pine, frequently changed. These shavings generate the peroxide very freely, and continue to do so for a long time. Sawdust also is a real disinfectant; and a very agreeable deodorant and disinfectant may be made by mixing about an ounce of the eucalyptus oil from the *Amygdalina odorata* species, with a bushel or more of clean red or yellow deal sawdust. It improves with keeping.

“In conclusion, I would claim for wooden hospitals the following advantages: 1. That instead of requiring constant purifying and disinfecting as other hospitals do, they purify and disinfect themselves; 2. That peroxide of hydrogen, the disinfecting agent they generate, contains oxygen—Nature's disinfectant—in a highly condensed and active form, which, moreover, is intensified in the presence of either pus or blood—a property rendering it pre-eminently adapted for hospital disinfection; for it is beyond doubt that pus-cells, in combination with other organic matter, are largely concerned in the causation of those septic diseases which are so destructive to life in ordinary hospitals; 3. In consequence of the above-named conditions, the inmates of wooden hospitals enjoy almost, if not perfect, immunity from hospital gangrene, erysipelas, and puerperal fever.”—*Med. Times and Gaz.*, Nov. 14, 1874.

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(For List of Contents see last page.)

FEBRUARY, 1875.

Anatomy and Physiology.

On the Lymph and the Lymphatics of the Liver.

E. FLEISCHE (*Berichte der Koniglichen Sächsischen Gesellschaft der Wissenschaften, Math.-Phys. Classe*, p. 42. 1874) says, that, if the lymphatics which proceed from the porta hepatis to the receptaculum chyli be exposed shortly after ligature of the ductus choledochus, it is observed that their usually colourless contents are tinged yellow. This formed the point of origin of the present investigation.

The supposition that the yellow colour exhibited by the liver-lymph was due to the admixture of bile, was confirmed by experiment. A few drops of the fluid gave distinctly with nitric acid Gmelin's reaction for the colouring matter of the bile. To ascertain whether it also contained the bile-acids, for special reasons (to be seen in the original) the lymph was not collected directly from the liver, but in a large curarised dog the ductus choledochus was ligatured through a small wound in the linea alba, and then the wound was sewn up. The thoracic duct was then exposed in the neck, and a canula placed in it. In a few hours a sufficient quantity (100 to 200 cubic centimetres) of lymph was obtained. In about five hours afterwards, the dog was bled from both carotids. From this blood a completely clear serum was obtained by means of the centrifugal apparatus. The serum of the lymph was also separated from the fibrinous clot which formed in it upon standing. The analyses showed that the lymph contained a considerable quantity of the bile-acids, whilst the blood did not contain a trace of them. The bile, therefore, when its natural outlets are occluded, passes into the lymphatics of the liver, and thence exclusively through the thoracic duct into the blood. If, in addition to the bile-duct, the thoracic duct be also ligatured, the bile does not pass at all into the blood, or only its traces.

The second part of the paper is devoted to the consideration of the question, what anatomical arrangement in the liver favours the passage of the bile into the lymphatics. In this part of the paper many new methods for the study of the structure of the liver are described.

1. All injections of the bile ducts were made on the liver of the rabbit, before rigor mortis set in, and the pressure under which it was done was measured exactly. Alkannin in turpentine was employed for the injection of the bile-ducts, and the red colouring matter, just as with Berlin blue, passed into the lymphatics. Many advantages over this mixture are offered by a filtered solution of asphalt in chloroform. For this mass, the pressure required is at least 30 millimetres (1.2 inch) of mercury. With this asphalt solution the author often succeeded in injecting from the bile-ducts not only the trunks of the lymphatics which run with the portal vein, but also the network which covers the diaphragm.

2. The author found that the lymph also leaves the liver by a channel other than those already known. In the connective tissue which binds together the strongest branches of the hepatic vein lie lymphatics, which empty their contents into those of the diaphragm.

3. The author then describes the connective tissue of the liver. For its

preparation two methods were employed. A one per cent. solution of chloride of palladium was injected into the hepatic vein, and then the liver was hardened in bichromate of potash. The finest branches of the hepatic vein could then be easily isolated. The tissue forms a network composed of fibrillæ and inclosed cells; the meshes are about as long as they are broad. The smaller bundles of connective tissue cut the finer branches at right angles, so that the long axis of the meshes becomes increased. In the mesh-work of the larger fibres is a very fine network with exceedingly fine meshes. On this second network the hepatic cells sit fast. To obtain the very fine network which stretches from the adventitia of the hepatic vein, this vessel is washed out with a half per cent. solution of chloride of sodium, and then injected with a dilute solution of nitrate of silver. This preparation is treated similarly to the last, being first hardened, and then the hepatic cells are brushed away. The bile-ducts are then injected with a one per cent. solution of perosmic acid, under a pressure of 20 to 25 millimetres of mercury. Afterwards a watery solution of Berlin blue may be thrown into the bile-ducts, and the whole liver hardened in solution of bichromate of potash.

The very fine network of exceedingly delicate connective tissue which is brought into view by this process, seems to be a means of keeping the hepatic cells *in situ*. Its relation to the blood-capillaries has not been definitely made out.

From the perosmic acid preparations, the author believes that the bile-capillaries are by no means mere furrows between the hepatic cells, but are independent structures with a proper wall. These bile-capillaries stand in no recognizable relation to the connective tissue.—*Lond. Med. Record*, Dec. 16, 1874.

On Anomalies of Origin of the Superior Thyroid and Lingual Arteries.

In a paper in the *Gazzetta delle Cliniche* for October 13, Dr. D. BAJARDI states that, while preparing an adult subject for lessons in operative surgery, he found that the right superior thyroid artery, in place of arising as usual from the external carotid, had its origin from the common carotid a little more than an inch from its division. It then passed slightly upwards behind the sterno-hyoid and omo-hyoid muscles, and was distributed to the thyroid body. The left superior thyroid also arose from the common carotid, but at the level of the enlargement which the vessel presents before its division. The vessel on the right side was much more slender than the other, and did not give off the superior laryngeal, which arose from the external carotid. The bifurcation of the common carotid was a little below the level of the upper margin of the thyroid cartilage.

Dr. Bajardi observes that the presence of the superior thyroid artery in the situation described might be a source of embarrassment to the surgeon in proceeding to tie the common carotid artery, as, seeing the thyroid artery in the wound, he might suppose that he had not cut down on the common carotid. He would also be embarrassed if his object were to tie the superior thyroid itself, not finding it in its normal situation.

In 117 cases, Dr. Bajardi has found the superior thyroid arising from the common carotid in 37, or 31.62 per cent. This proportion appears greater than is generally admitted; Quain, for instance, gives 41 cases in 292, or 14.38 per cent. In the thirty-seven cases, the thyroid artery arose in thirty-three at the level of the carotid sinus, and in four only lower down. In one case, Dr. Bajardi found a double superior thyroid artery; both branches arose from the common carotid, one 0.7 inch, the other 0.3 inch below the bifurcation. In four cases, he has found the superior thyroid having a common origin with the lingual; in two cases from the common, and in two from the external carotid artery.

In an adult female subject, the right lingual artery came off from the common carotid about two-fifths of an inch below the bifurcation, while the superior thyroid had its origin from the external carotid muscle higher than usual. The lingual artery ascended along the lower side of the carotid as high as the greater

course of the hyoid bone, and then, passing behind the hyo-glossus muscle, entered the tongue. The dorsal artery was not supplied from the lingual, but from the facial artery.

Dr. Bajardi has in one case seen the lingual artery have a common origin with the superior maxillary.—*London Med. Record*, Nov. 18, 1874.

On the Anatomy of the Ear.

At a meeting of the Medical Society in Vienna, in the beginning of October (a report of which is given in the *Allgemeine Wiener Medizinische Zeitung* for October 20), Professor POLITZER gave the result of some investigations which he had recently made into the anatomy of the ear. He finds that, in newly born children, the cavity of the pyramid containing the stapedius muscle is separated only at the upper part by osseous tissue from the canal through which the facial nerve passes, while the lower part of the cavity communicates freely with the same canal, and thus allows, at this spot, the muscle and nerve coverings to come into actual contact with each other. In the adult, the amount of direct communication between the cavity and canal is very various, ranging from a small opening sufficient for the passage of the nerve to the stapedius, to a large irregular opening. The styloid process, he avers, arises from a cartilaginous body, which not only in the fœtus, but also in the newly born, is to be found as an isolated cartilaginous formation; and the upper end of the process does not terminate at the external visible base, but passes through a thin osseous lamella along the posterior wall of the tympanic cavity, reaching as far as the eminentia stapedii. In the adult, the process is sometimes solid, sometimes hollow, but generally there is a cellular structure with or without a central canal.—*London Med. Record*, Dec. 2, 1874.

On the Part played by the Gases in the Coagulation of the Blood.

In a paper communicated to the Academy of Sciences at the meeting held on September 14, 1874, MM. E. MATTHIEU and V. URBAIN state, as the result of their experiments: 1. That carbonic acid is the agent of the spontaneous coagulation of the blood; 2. That during life the obstacle to this coagulation resides in the blood-corpuscles, these having as their special function the fixation not only of the oxygen, but also of the carbonic acid contained in the blood. As a result, the coagulating action of the last-named gas cannot be exerted in physiological conditions. They proceed to show that there are many proofs of the participation of carbonic acid in the phenomena of the spontaneous coagulation of the blood. Thus, the amount of carbonic acid contained in blood before coagulation, and after coagulation, was at 100° F., 48.05 and 39.38 cubic centimetres; at 86° F., 50.00 and 44.85 cubic centimetres; at 59° F., 49.00 and 40.95 cubic centimetres; and at 50° F., 54.50 and 42.50 cubic centimetres. Again, the blood which returns from glandular organs, and especially from the kidneys, is incoagulable, and this blood contains very little carbonic acid (renal arterial blood 49.78 cubic centimetres per cent., renal venous blood 16.00 cubic centimetres per cent.). So also, if the removal of carbonic acid from the blood be favoured by simple exosmose, coagulation will not take place; yet if it be placed in an atmosphere of carbonic acid, coagulation rapidly sets in. The clots, however, are softer than those which form in air, rendering it probable that oxygen influences their consistence. Lastly, certain neutral salts impede or prevent coagulation, but such salts fix a notable volume of carbonic acid, and thus withdraw it from the blood.—*London Med. Record*, Nov. 11, 1874.

Materia Medica and Therapeutics.

On the Physiological and Therapeutical Action of Jaborandi.

At the meeting of the Paris Société de Thérapeutique, on November 11 (*Bulletin Général de Thérapeutique*, November 30), M. ROBIN gave an account of the result of researches made by him, and under his direction, on this new therapeutical agent, in M. Gubler's wards. When an infusion of four grammes (about one drachm) of jaborandi leaves is administered to an adult, the following changes take place in the urinary secretions. The quantity of urine diminishes in a very noticeable manner on the day the remedy is administered, but on the next day there is sometimes a slight augmentation, sometimes the usual amount. The urea undergoes the same modifications in quantity; it diminishes on the day the jaborandi is given, increases slightly again on the next day, and then falls to the normal amount, so that it may be asserted that jaborandi does not increase combustion of the animal economy. Chlorine and the chlorides, as well as the uric acid, also undergo the same quantitative changes, and diminish on the first day only to increase on the second. Examination of the saliva and the perspiration has not shown the presence of uric acid, but urea is found in notable quantities in these two liquids.

In several cases of Bright's disease, jaborandi lowered the amount of albumen on the first day it was administered, but on the next day the quantity increased again, and sometimes exceeded the amount noted before the experiment.

In thirty-two experiments in which the temperature and the pulse were noted, it was observed that at the moment the sweat was produced, there was an increase of the pulse and of temperature; then during the period of active sweating, it was sometimes noted that these two elements remained at the same point as at the outset of the experiment. Sometimes there was a slight diminution; but after sweating, a very notable lowering of the pulse and of the temperature were observed, which sometimes lasted two days after the experiment.

Sphygmographic tracings, taken at different stages of the administration of this drug, showed almost complete asystolia with a very noticeable diminution of vascular tension during the sweating stage. M. Robin therefore thinks that jaborandi has a quite special action on the vaso-motor nerves which are paralyzed by it; hence the cardiac asystolia and the abundant secretions of saliva and sweat. When administered in fractional doses, jaborandi does not produce either perspiration or salivation, but becomes a powerful diuretic.

In the case of animals, as dogs and guinea-pigs, in addition to the salivation, an enormous secretion from all the intestinal glands was noted, accompanied by considerable congestion of the digestive canal, which might go on to hemorrhage. M. Robin proposes to continue his researches, and to furnish the fresh results of them to the Société de Biologie.

M. Gubler said that, whilst admitting the paralyzing action on the vaso-motor nerves, which would increase the secretions and the excretions, a special irritant influence of certain elements of the jaborandi on the sudoral and salivary glands of the kidney must be allowed for, since this irritant action stimulated their secretory powers.—*London Med. Record*, Dec. 16, 1874.

Aconitia in Surgical Practice.

At the recent meeting of the French Association for the Advancement of Science, at Lille (*Le Progrès Méd.*, Aug. 29), H. A. PAQUET read a paper upon the employment of aconitia in the serious symptoms attending conditions of the organism occasioned by a grave wound. He had been led to the employment of this drug by the successes which had been previously obtained with it by Tessier in metro-peritonitis; by Chassaignac, who gave it as a preventive before operations; by Gubler, who administered it in intermittent

fever; and by the experiments of Liégeois, Hirtz, and the more recent ones of Grebant, "showing the sedative influence of aconitia upon the nervous and circulatory systems." The variety employed was the amorphous, or German, aconitia, given in doses of from four to six milligrammes (gr. $\frac{1}{15}$ to gr. $\frac{1}{10}$), in the form of granules. M. Paquet was not disappointed in the expectations he had formed as to its value, and in eight cases which he communicated to the Society, he had obtained excellent results with it. Three of these were instances of large lacerated wounds, accompanied by tetanic symptoms; two were cases of phlegmonous erysipelas, and three were operations for strangulated hernia. M. Paquet asks whether the drug may not also be useful in preventing purulent infection. A peculiar phenomenon is observed during the administration of aconitia, viz., the occurrence of troublesome itching over all the body, especially on the face and about the ears.—*Irish Hospital Gazette*, Dec. 15, 1874.

New Method of Administering Raw Meat.

Raw meat is a very repulsive medicinal agent, under what form soever it be given to invalids. The solid form is by no means advantageous, and its administration is impracticable with young children and convalescents. By M. Yvon's process, a product is obtained which may be administered in either a solid or liquid form. He takes of raw beefsteak, 250 parts; blanched sweet almonds, 75 parts; bitter almonds, 5 parts; white sugar, 80 parts. The almonds are first blanched, and then pounded up with the meat and sugar in a marble mortar, so as to obtain a homogeneous paste. To obtain a nice-looking product, and to retain at the same time the few fibres which may have escaped the action of the pestle, this paste may be reduced to pulp. When it has undergone this process, it is of a pale pink colour, and has a very agreeable flavour, not in the least like raw meat. It will keep without change for some time, even in summer, if it be placed in a cool dry place. If it be desired to give it in a liquid form, it will be enough to dilute a certain quantity of it with water, according to the degree of fluidity required. The emulsion may also be prepared at once, as follows: Raw meat, 50 parts; blanched sweet almonds, 15 parts; bitter almonds, 1 part; white sugar, 16 parts, are all pounded in a mortar as in the first formula; the quantity of water needed is added by degrees; and all is then passed through a sieve. Whichever mode of preparation be adopted, the emulsion will keep for at least four-and-twenty hours; and when it separates, at the end of that time, a slight shaking will re-establish the suspension. Some yolks of eggs will make this emulsion more nourishing. (*Journal des Connaissances Médicales*.) M. Taillier, the head apothecary at the asylum of Quatre-Mares-Saint-Jon, employs the following preparation for the insane patients to whom it is necessary to administer raw meat (*Répertoire de Pharmacie*): Grated raw meat, 100 parts; powdered sugar, 40 parts; wine, 20 parts; tincture of cinnamon, 3 parts. The sugar is incorporated with the raw meat in a marble mortar, and then the wine and tincture are added. A mixture like marmalade is obtained, having an agreeable flavour, and possessing all the requisites of a tonic and revivifying diet. This preparation has many recommendations, though it does not possess all the advantages of the one recommended by M. Yvon.—*British Med. Journ.*, Dec. 19, 1874.

A New Poultice.

The time-honoured linseed-meal poultice seems to be about to be superseded by as cleanly and efficacious a substitute as the Rigollot papers, which have so recently displaced its old companion-in-arms the mustard-poultice. M. Lefort, reporting to the Académie de Médecine on a new form of cataplasme invented by M. LELIÈVRE, speaks in the highest terms of its excellence. It is prepared by imbibing two superimposed layers of wadding with a solution of *Fucus crispus*, and drying them in a stove after they had been submitted to strong pressure. In this way a sheet of the consistence of card-board is pro-

duced, a portion of which is cut off, when wanted, and soaked in hot water for fifteen or twenty minutes; this swelling it out and filling its tissue with a mucilaginous fluid. It has been tried in several of the hospitals, to the great satisfaction of both patients and attendants. It can be prepared in large quantities beforehand, as when it has been once tried it will keep for a long time without undergoing any alteration.

M. Gosselin said that he had tried this cataplasm, and could speak as to its utility. When covered by an impermeable tissue, it does not dry up like other poultices, and especially it does not slide off from the part on which it is put, being sufficiently adherent to prevent its becoming displaced. M. Verneil said that he had used it for several months in his wards, and has found it a most convenient application, for it can be cut and fashioned into any form or size desired. After being swollen out by soaking in warm water, it may remain in that state for twelve, eighteen, or even twenty hours; and after twelve hours it is as fresh as when first put on; so that it does not require renewal every five or six hours, like linseed meal. It does not give rise to any bad smell, becoming at last only slightly acid. It neither softens nor crumbles; and as it does not soil either the parts or the linen, etc., it comes in contact with, it secures an amount of cleanliness that is of great importance. It is also economical, as it enables us to dispense with compresses and poultice-cloths, which are so often badly washed and badly whitened. This latter point is also of importance as regards preventing the infection of wounds. M. Larrey believes that this emollient *fucus* is likely to be of valuable service as a cataplasm in military service in hospitals and ambulances, by reason of its ready transport and facility of conservation. M. Demarquay, who has frequently employed these cataplasms, agrees with M. Larrey that they will prove very useful in ambulances, taking up so little room and keeping so well. M. Leroy de Méricourt believes that these cataplasms will be of great service in the navy. On board a ship it is usually impossible to wash poultice-cloths, while, as linseed-meal cannot be preserved, poultices have to be made of biscuit-dust, which produces very bad poultices. The inventor is of opinion that when his cataplasms are produced on a large scale they will be cheaper than linseed-meal poultices.—*Med. Times and Gaz.*, Dec. 26. 1874.

Medicine.

The Etiology of Diabetes.

In the *Berliner Klinische Wochenschrift*, of November 2, Dr. SCHMITZ, of Neuenahr, points out that hereditary predisposition has probably more to do with the development of diabetes than almost anything else. Mental anxiety, severe pain, and injuries of various kinds, whether they affect the nervous system or not, seem to be powerless to set up the disease without this inherited tendency. Of 104 patients observed and treated by the author since 1868, and in whom the family history was most carefully inquired into, twenty-two were found to have had diabetic parents or relations; and if those cases had been included in the list in which the patients "believed" that other members of their family had been similarly affected, but were not absolutely certain of the fact, the numbers would have been much higher. Dr. Schmitz remarks with truth how little many persons know of their relatives' illnesses, and quotes Seegen's observation that many cases of diabetes are probably never recognized. Of the twenty-two patients in whom the disease was hereditary, the grandfather of one was diabetic, and the father and grandfather of another. In six cases the father, and in six others the mother and sisters were diabetic, and in eight the sisters only. Dr. Schmitz, however, only looks on hereditary-

ness as a predisposing cause, and he brings forward several interesting cases to show how the tendency may remain latent for years, until some sudden mental trouble or bodily injury calls it, as it were, into life.

One patient, Herr F., fifty-seven years of age, had lost his father from diabetes, but all the other members of his family were healthy. His own health had previously been excellent, when one day a favourite daughter committed suicide in a fit of melancholia. He was almost immediately seized with dyspepsia and intestinal catarrh, and had an attack of jaundice, from which he partially recovered, but soon began to lose flesh and strength, and thirst and polyuria set in. A month later his urine contained five per cent. of sugar, and he soon exhibited all the symptoms of confirmed diabetes. His son Franz, twenty-six years old, enjoyed excellent health until, in September, 1871, he fell from his horse, and severely fractured his left leg. The accident was followed by agonizing pains in the limb during the first few days which succeeded it, and a fortnight afterwards the subjective phenomena of diabetes set in, and on examination his urine was found to contain six per cent. of sugar. Absolute diet, alkalies, and opium speedily improved his condition, but in June, 1872, there was still about one per cent. of sugar present. The remarkable feature of these two cases is, that although the father of one patient, and the grandfather and the father of the other had both been diabetic, they both remained in good health until a severe nervous shock brought out the latent disease. The suicide of the daughter in a fit of insanity is also worthy of note, because it seems to favour the relation between mental affections and diabetes.

Another interesting example of diabetes following mental anxiety in a patient hereditarily predisposed is given by Dr. Schmitz. A man, aged twenty-eight, always healthy until his present illness, had lost an aunt (mother's sister), a sister, and a niece of diabetes, and his brother was a sufferer from the same disease when he himself came under observation. His father died of typhus; his mother is still alive, and suffers from rheumatic gout. For the last seven years he has worked excessively hard in his father's business, without taking proper rest or holiday, and has lately been much worried by unsuccessful commercial transactions. Lately he has developed all the symptoms of diabetes, and his urine contains 1.5 per cent. of sugar.

A fourth case which the author brings forward in favour of his theory of some severe mental or bodily injury being necessary for the development of an hereditary diabetic taint, seems to us less satisfactory on that point than the others. A woman, who had enjoyed good general health with the exception of occasional attacks of diarrhoea up to her fiftieth year, was attacked with violent prurigo pudendorum in the autumn of 1871, and the irritation became so frightfully severe that for eight months she scarcely slept at all, and was, according to her own account, almost driven out of her mind by it.

In the spring of 1872 she had all the symptoms of diabetes, and sugar was found in her urine; but as the summer came on the prurigo diminished, and the diabetic symptoms became coincidentally less pronounced. Under treatment with opium and valerian the patient improved, and both prurigo and diabetes became remarkably reduced. There was always, however, an increase of sugar in the urine with increase of the prurigo. It should be mentioned that the patient's mother and four sisters were all diabetic. Dr. Schmitz explains the case as follows: The first onset of the disease was due to the mental prostration and shock caused by the prurigo pudendorum, and each subsequent exacerbation of the diabetic symptoms was likewise due to the nervous condition (*nervosität*) set up by a fresh outbreak of prurigo. Dr. Schmitz therefore makes the diabetes secondary to the prurigo, while we should rather look on the prurigo as secondary to the diabetes. Prurigo pudendorum is a common accompaniment of that disease in women, and to our own knowledge it is the symptom which often leads to the first examination of the urine and the discovery of sugar in it; and it is to the presence of this sugar, and the irritation which it excites by its contact with the genitals during and after the patient's frequent acts of micturition, that the prurigo is due. The simultaneous increase and diminution of this distressing symptom, and of the percentage of sugar in the urine, is explained equally well on this theory as on that of Dr.

Schmitz. The hereditary predisposition is clear enough in this case, but not the determining cause.—*Med. Times and Gaz.*, Dec. 5, 1874.

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On the Anatomical Changes in Hydrophobia Canina.

The long-continued epidemic of last winter has, through the assistance of his colleagues of the Imperial Veterinary School in Vienna, furnished Dr. BENEDIKT (*Wiener Mediz. Presse*, June, 1874), with numerous preparations from the brain and spinal cord of different animals that had been attacked with rabies. Before describing these, the author discusses the difference presented by the disease as seen in man and in dogs, which has also a special significance with reference to the anatomical appearances. In both the disease begins with a restless melancholia. In the dog this passes into raving madness, while in man this form of mental affection is wanting. In man illusions and hallucinations take but small share in the symptoms, while in dogs they are plainly a prominent feature. In man there is the greatest degree of hyperæsthesia, with highest possible susceptibility for convulsions; in dogs, diffused paralysis and aphonia are among the earliest and characteristic symptoms. In the human being there is the most extreme reflex excitability in the movements of deglutition, so that not only the raising a glass to the mouth, but even the sight of fluids, will induce violent spasmodic action in those organs; whereas in dogs there is a paralysis of deglutition for fluids. In man the severest spasms of the respiratory muscles are present, so severe as sometimes to cause asphyxia. Such spasms are not observed in dogs, which die generally from exhaustion.

Dr. Benedikt has studied the pathological changes by making seven separate vertical sections through the hemispheres in dogs, and has observed such plain and striking pathological changes as could, he observes, only have been previously overlooked by reason of an imperfection of the methods of investigation.

In the first place, there is noted an abnormal distension of the meningeal vessels and the accumulation around them, and in the meshes of the pia mater, of inflammation-corpuseles, together with a nucleolated exudation. This exudation is strongly refractive of light, is colourless, and under high magnifying powers is seen to consist of punctiform nuclear substance (granular disintegration). Striking changes are observed in the gray matter of the convolutions, and in various parts of the nervous centres. One of the coarser changes observed was the presence of numerous holes, or spaces, which when magnified eighty or ninety diameters, were seen to be filled with a material which also refracted light. This mass, under the high powers of the microscope, consisted of a granular or nuclear substance, in which were single hyaloid and colourless corpuscles, of the size of a distended nucleus of a blood-corpusele. Inflammatory corpuscles, were to be seen in both these masses. In the larger spaces, nerve-cells also were found. Dr. Benedikt further describes what he calls a peculiar condition of the hardened brain, especially in the finer sections. The slightest pressure forced out upon the surface shining masses, which under the microscope proved to be myelin (colloid? *Rep.*). These masses were often found lying detached on the surface of the section, and presented a greenish lustre. The author states that he has seen the same in the spinal cord of a horse that had suffered from rheumatic tetanus, and that he had regarded it as a softening and chemical alteration of the substance of the spinal cord.

The signs of inflammation are not presented everywhere in the pia mater, but only in certain parts. The distribution of these in the gray matter and in the central white substance throws a new light, according to Dr. Benedikt, upon the nature of the "granular disintegration." (A diagram intended to illustrate this point is given.) From what he has noted, it is concluded that the pathological process in this disease consists in acute exudative inflammation, with hyaloid degeneration, which doubtless arises from the exudative infiltration of the connective tissue. It is characteristic with reference to these inflammatory products that the attack, in man at least, is ushered in with rigors. The hyperæmia and nuclear proliferation is concurrent with that form of diffused inflammation which Lockhart Clarke has designated as "granular

disintegration," and so far, the author considers, the anatomical obscurity of this disease is dispelled. The morbid process, in man, is doubtless essentially the same. The usual *post-mortem* appearance is congestion and softening, which may have no especial value except as following asphyxia.

Dr. Benedikt states that there are in literature only two trustworthy reports, viz., by Meynert, who found much the same appearance as the author. The spaces, or holes, are regarded by Meynert as being the result of the hardening of the brain-substance. In two other cases Meynert found hypertrophy of the connective tissue in the posterior columns, with molecular and amyloid degeneration in the anterior columns. The nerve-cells of the cortical matter had also undergone partly molecular, and partly sclerotic change.—*London Med. Record*, Sept. 30, 1874.

Aphasia produced by Pressure on the Brain in the Course of Meningitis.

In the *Centralblatt für Chirurgie*, No. 36, is the report of a case of so-called acute pachymeningitis, in which Stassin observed on the third day of the disease the disturbance of speech characteristic of aphasia, accompanied by no impairment of the intellect. The patient could answer all questions which required a simple "Yes" or "No" correctly, but if an answer of several words were required, he could only bring out, with evident distress, the following words, "*requi verement, merci.*" A remarkable point in the case was the almost complete return of the power of finding words, accompanied by a slight amelioration of the symptoms lasting for three days. After an abundant hemorrhage from the nose, aphasia became complete again, and the patient died delirious after the occurrence of spasm on the right side of the body, and later general convulsions. The cause of the aphasia was supposed to be the pressure exerted on the brain by the meningeal exudation which was found at the autopsy.—*Med. Times and Gazette*, Dec. 19, 1874.

The Pathology of Wasting Palsy.

In spite of the attention which has been bestowed on the pathological anatomy of progressive muscular atrophy and on the various relationships of the disease, authorities are by no means agreed as to its precise pathology. The affection was regarded, like many others, as essentially one of the muscular system, until an improved method of spinal cord investigation was introduced. The important additions to our means of examining the nerve centres have revealed extensive disease in cords which, examined by the methods previously employed, would have been pronounced healthy. In most cases of progressive muscular atrophy the cord has been found to be diseased, and the theory has been advanced and widely accepted that the changes in the cord are the cause of the symptoms. But in a few cases the cord has been found free from disease, even when examined in the most careful manner; and some of the best authorities on the subject are therefore inclined to regard the central affection as secondary or coincident. Such is the view maintained by Friedreich in his elaborate work on *Progressive Muscular Atrophy*, published a year ago, and which must be regarded as the latest and best authority on the subject. But in the well-known German *Jahresbericht* of Virchow and Hirsch, a chapter is given to the malady in the section on Diseases of the Nervous System, and another in that on Chronic Constitutional Affections, so doubtful is it still considered in which category the disease should be placed.

There seems no question about the extent and degree in which the spinal cord is damaged in many cases, and the particular lesion to which the wasting is related appears to be degeneration of the anterior horns of gray matter. This fact comes out perhaps more clearly in relation to another set of cases—those of local muscular wasting. In progressive muscular atrophy, cords have only been examined in the later stages of the affection, and the damage extends commonly through the greater part of the centre, affecting regions which are known to be related to other symptoms than muscular atrophy. In some of the

cases of local wasting, on the other hand, the disease in the cord is limited with all the precision of a physiological experiment. Several such cases are on record, but none is more instructive than that described by MM. Prévost and David in the last number of the *Archives de Physiologie*. The muscles of one thenar eminence were those wasted, and the change in the cord was opposite to the seventh and eighth pairs of nerves, and consisted of degeneration and atrophy of the anterior horns, destruction especially of the outer group of nerve-cells. The question remains, however—Are these lesions in the cord the cause or the consequence of the muscular wasting? Bamberger and Friedreich maintain, on the strength of cases in which the cord presented no pathological appearance, that the changes in it cannot be the cause of the affection. The former believes that the frequency with which the sympathetic ganglia are reported as presenting morbid appearances affords ground for believing that in them we must look for the primary cause of the malady. The anterior gray cornua of the spinal cord may be in the path of the sympathetic filaments, so that disease there will lead to the wasting in the muscles, which may equally result from an affection of the sympathetic ganglia themselves. Friedreich also holds that the affection of the cord is either a secondary change propagated to it from the nerves, or else a simultaneous and independent affection. A grave objection, however, to the latter hypothesis is the fact that injury or disease of the anterior horns of gray matter is followed by muscular wasting. The experiment has been performed on animals with that result, and it is repeated for us in every case of "infantile paralysis." Moreover, it has been found by Vulpian and Dickinson, on examination of the cords of those who have had a leg amputated some time previously, that secondary degeneration of the gray matter is far slighter than that common in wasting palsy.

The arguments from the etiology of the affection are of little value. It is true that influences acting on the system as a whole are the most frequent causes of progressive muscular atrophy; but that fact supplies no evidence against its central nature, since such conditions are common causes of spinal-cord disease of many kinds. On the other hand, the frequent association of the early stage of the affection, before the muscular atrophy is extensive or advanced, with other nervous symptoms, such as indicate unquestionably the existence of organic change in the spinal cord, is a proof that extensive spinal mischief may exist long before the period at which it would manifest itself as a merely secondary change.

Much weight is placed by Friedreich on the evidence afforded by the microscopical examination of muscles in the early period of the disease. He believes that the commencing changes indicate that the affection is primarily myopathic. The earliest alteration, he says, is to be found in the perimysium internum: the finest tracts of interstitial connective tissue between the separate primitive bundles begin to multiply, the primitive bundles themselves increase in size, show an increase in the muscle-corpuscles, as well as a proliferation of their nuclei, and here and there the transversely striated substance becomes cloudy and granular. The interstitial hyperplasia of the connective tissue leads in its progress to the destruction of the muscular fibres, either by fatty degeneration, by gradual dissolution, or by breaking up longitudinally or transversely. The process is thus essentially one of cirrhosis of the muscles. But the significance of these changes in the muscle, so far as the nature of the disease is concerned, is very questionable. Indeed, if we compare them with those which are produced by a lesion of the nervous system, it is not easy to see in what their especial characteristic consists. Erb has described (*Deutsches Archiv*, 1869) the changes in a muscle of the face which had been paralyzed for forty days by mischief in the temporal bone. Thick septa of newly-formed connective tissue were interposed between the primitive muscular fibres. The size of the latter was much reduced, and they contained numerous nuclei. The transverse striation was preserved in the greater part of the atrophied muscular fibres, while in some it was scarcely perceptible. Granular and fatty degeneration was very rare; the condition, just as in the case of progressive muscular atrophy, resembled a cirrhosis rather than a primary fatty degeneration. So far, then, as the condition of the muscles is concerned, the pathological anatomy of the

disease accords as well with a central as with a peripheral origin. The myopathic theory must rest exclusively on the occasional freedom of the cord from disease.

Nothing, however, is clearer in the pathology of nerve disease than that general muscular atrophy may result from spinal mischief. This is seen frequently in the cases in which general spinal paralysis is followed by wasting with a rapidity and to a degree which no disuse of muscles will explain, and the result may be indistinguishable from the ultimate condition reached in the most typical example of wasting palsy. That the same end may be reached by more than a single path is, of course, not improbable; but more evidence by competent observers of the freedom of the spinal cord from disease, in marked and characteristic cases, is necessary before we can set aside the many facts and strong evidence which exist to show that the malady is essentially one of the nerve centre.—*Lancet*, Nov. 28, 1874.

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On Photographic Representations of the Minute Structure of the Human Nervous System.

Under this title we have a communication made by Dr. DUCHENNE to the Society of Medicine in Paris, on the occasion of his presenting an album containing sixty photographic representations of brain-structure. The part of the nervous system to which the communication is particularly devoted is the medulla oblongata. The object Dr. Duchenne had in view in selecting this part of the nervous centres, was the hope that he might therein find the explanation of the symptoms observed in cases of glosso-labio-laryngeal paralysis.

It was not until the author had been enlightened by Dr. Lockhart Clarke on the nature of the appearances he obtained, that he was able fully to comprehend their importance, and by their means to render more complete the morphological particulars already given by Dr. Clarke.

The symptoms of this particular form of paralysis, of which Dr. Duchenne was desirous to find the physiological explanation, are described as follows:—

1. Glosso-labio-laryngeal paralysis primarily affects the pronunciation of the lingual consonants, later on that of the labials, and progressively the entire power of articulation.
2. About the same time deglutition is affected and becomes more and more impaired.
3. The voice becomes nasal, and the lateral movements of the lower jaw become paralyzed.
4. In a more advanced period of the disease, the expiratory power is weakened and utterance diminished.
5. In the last period, the action of the heart is sometimes so profoundly affected that it may suddenly cease.

To account for these symptoms, Dr. Duchenne considered that it was necessary that one and the same lesion should be found to attack the origin of the following nerves: the hypoglossal, the motor nerve-fibres of the velum palati, those of the lips, the spinal accessory, and perhaps the pneumogastric. By means of his photographic representations of several transverse sections of the bulb, Dr. Duchenne has been enabled to demonstrate the connections existing between the nuclei of these different nerves, and thus to prove the following occurrences: 1. The morbid process generally at first attacks the nucleus of the hypoglossal nerve, occasioning difficulty in the pronunciation of the lingual consonants. 2. The lesion, extending in the neighbourhood of the hypoglossal, attacks the inferior cells of the nucleus of the seventh pair of nerves, rendering the pronunciation of labials a matter of difficulty. 3. The same morbid process spreads to the spinal accessory nucleus, and thus progressively weakens bronchial expiration and phonation. 4. The demonstration of the position of the originating nerve-cells of the motor branch of the fifth pair of nerves, low down in the bulb, accounts for the nasal sound of the voice, also for paralysis of the muscles of the velum palati; and in particular, for the paralysis of the pterygoid muscles. 5. The extension of the lesion from below upwards, and the inclusion of the nucleus of the vagus, will account for the disordered action of the heart, and finally for sudden death. 6. The result of this inclusion of the nucleus of the pneumogastric during the gradual ascent and progress of the

lesion will account for the fact that the muscles of the face, and other parts supplied by nerves from a point higher than the origin of this nerve, are not affected. It should, however, here be noted that Dr. Duchenne is not explicit on the nature of the lesion or the mode in which he traces it from part to part in its alleged course. Starting from the results thus obtained, Dr. Duchenne alleges, regarding these photographic representations, that they show the structure of the anatomical elements as they appear on the field of the microscope, and therefore their exactness cannot be doubted; that they confirm and strengthen the observations of Dr. Lockhart Clarke; and lastly, that they assert superiority for the employment of photography, whereas other methods of microscopical drawing are necessarily only skeleton representations of the real appearances.—*London Med. Record*, Dec. 23, 1874.

The Physiology of Spasm and Palsy of the Larynx.

Dr. GEORGE JOHNSON's paper, read at the last meeting of the Royal Medical and Chirurgical Society, raises a very interesting question with reference to the physiology of the larynx. The paper is a practical out-come of careful laryngoscopic examination in two cases of aneurism. In a case of aneurism of the innominata, with pressure on the right vagus and recurrent, Dr. Baumbler had observed bilateral palsy of the larynx; and Dr. Johnson observed the same phenomena with an aneurism of the aorta pressing on the left vagus and recurrent. The question then arose, what is the explanation of the bilateral palsy of the larynx which results from pressure on the vagus and recurrent nerve on one side only? Dr. Johnson answers this question by suggesting that, while the palsy on the one side is a direct result of pressure on the recurrent nerve, that on the opposite side is due to an influence propagated through the afferent fibres of the compressed and irritated vagus to the nervous centre, and thence through the efferent fibres of the other vagus to the muscles of the larynx on that side; so that, in accordance with this view, while the palsy on one side of the larynx is a direct result of pressure on the recurrent, that on the opposite side is an indirect result of irritation of the trunk of one vagus transmitted to its centre of origin, and thence reflected through the associated vagus to the muscles on the opposite side of the larynx. The arguments in support of this explanation will be found in Dr. Johnson's paper; and it will be seen that the results of experiments on living animals lend support to the theory. It is shown that irritation of the recurrent nerve excites movement of the vocal cord on the one side only, while an electrical stimulus applied to the central cord of the divided superior laryngeal nerve excites a reflex bilateral spasm of the glottis. In short, while a stimulus applied to one efferent nerve excites unilateral contraction of the laryngeal muscles, the excitation of the afferent fibres of one vagus determines a reflex bilateral contraction. This, then, is the explanation of the bilateral *spasm* of the larynx which results from unilateral nervous irritation. In explanation of the bilateral *palsy* induced by the long-continued irritation of the trunk of one vagus, Dr. Johnson refers to the structural changes which Dr. Lockhart Clarke has demonstrated to occur in the spinal cord as a result of peripheral nervous irritation in cases of traumatic tetanus; and he suggests that in any future case that may occur in which a bilateral palsy of the glottis, revealed by laryngoscopic examination during life, is found associated with an aneurism pressing on the vagus and recurrent nerve on one side only, a careful microscopic scrutiny of the medulla oblongata will probably discover, in the nerve-nuclei and the commissural fibres of the spinal accessory and the vagi nerves, structural changes which will fully explain the bilateral palsy, and thus supply the only evidence which is wanting to establish the truth of the theory.—*Brit. Med. Journ.*, Dec. 19, 1874.

On Subcutaneous Injections of Morphia in Dyspnœa.

According to Dr. ALEXANDER REGNAULT (*L'Union Médicale*, June 2, 9, and 18), subcutaneous injections of hydrochlorate of morphia are not only useful

in relieving pain, but modify very effectually attacks of dyspnœa. This result is always obtained, whatever may be the cause of the breathlessness, whether it be owing to an affection of the thoracic organs or not—whether or not it be accompanied by pain.

The observations which Dr. Regnault brings forward to prove this statement are divided into two classes. In the first the result only is stated, without any mention of the cause. In the second the *modus agendi* is studied, and with this object, the pulse, the temperature, and the respiration are carefully noted. In looking over the observations of the first series, it is at once seen that the number of inspirations is lessened soon after the injection of the morphia, and this decrease is entirely in accordance with the received ideas as to the action of opium and morphia. Opium diminishes the number of respirations; it is therefore hardly astonishing that an injection of hydrochlorate of morphia should successfully combat dyspnœa, arising from any cause whatever.

As the number of respirations decreases, the size of the chest increases. The majority of patients treated for dyspnœa, were breathing quickly and noisily before the injection; ten minutes or a quarter of an hour afterwards their respiration was imperceptible to the ear, and on inspection the chest was seen to dilate slowly and regularly.

In support of the preceding statements, several observations, chosen from among the most striking contained in the work, may be quoted. In observation iii. of the second series, under the title of pulmonary phthisis, complicated with pneumonia, on June 27, 1872, the oppression was extreme, the number of respirations amounting to fifty per minute. Two injections of a solution (one part in 100) of hydrochlorate of morphia were administered. Ten minutes afterwards the patient was perfectly calm, and the number of respirations was reduced. In another case the result was the same. The patient, who was suffering from traumatic pneumonia, had, on the evening of May 13, a terrible attack of dyspnœa. The number of inspirations per minute was forty-eight; on the following morning it had fallen to thirty, and the patient felt quite comfortable.

The cessation of the dyspnœa cannot be attributed to any other than the medicine in question, for in some instances the result followed rapidly on the administration of the morphia, ten minutes having sufficed to produce a complete calm, and in one case the patient was quieted in from three to four minutes. The best preparation both for soothing pain and preventing dyspnœa is the hydrochlorate of morphia. Narceia, of which the effect is perhaps more certain, may be used; but the difficulty of obtaining this substance perfectly pure, and also its high price, is an obstacle to its employment. Injections of atropia should not be used on account of their danger and the serious accidents they have caused. The solutions of morphia generally used are of the strength of one in fifty or one in a hundred.

The concentrated solution is preferable, because in giving the same quantity of morphia in half the volume, there is less chance of abscesses being formed where large doses have to be administered.

To obtain a certain and rapid result, it is safer to inject into the walls of the thoracic cavity. This fact seems an argument in favour of the opinion held by some, that morphia has both a local and a general action.

The following conclusions may be drawn from Dr. Regnault's observations:—

1. Injections of morphia seem to possess a real efficacy in cases of dyspnœa, whether it be a symptom of disease or a complication of it.
2. The decrease of the number of inspirations under the influence of the morphia explains the invariability of the result.
3. The effect produced is more certain and more rapid if the injections be made in the thoracic walls.—*Lond. Med. Record*, Dec. 16, 1874.

Aneurism of the Heart.

At a late meeting of the Pathological Society of London, Mr. REGINALD SOUTHEY showed a very rare specimen of aneurism of the heart. The patient

had been under his care two years ago. He was a soldier, who had served in India, and had had ague and fever there. Soon after his return, whilst carrying a heavy weight, he felt something "give way" in his chest; and this was followed by a sense of tightness across the chest, great dyspnoea, and cough. When admitted in October, 1872, there was extreme pallor and debility; orthopnoea and great dyspnoea on movement. The heart was found to be enlarged, with diffused apex beat, and a thrill felt there; a double murmur was audible over the lower part of the cardiac area and towards the apex. He became much better, and was able to work after his discharge. On readmission in October last, he was extremely ill, and presented symptoms of left pleurisy; he was unable to lie down; there was anasarca of the legs, and also ascites. There was a systolic murmur over the heart's apex, which was displaced to the right. Four pints and a half of fluid, at first clear, then blood-stained, were removed from the left pleura by paracentesis, but he rapidly sank. At the autopsy, the left side of the diaphragm was pushed downwards, and the left pleura contained four pints of fluid, with some blood-clots. An aneurismal sac, the size of a large cocoa-nut, was found in the wall of the heart, opening by an orifice, the size of a crowquill, into the left ventricle near the apex. The sac was globular, partly divided by a fibrinous septum, its wall somewhat thin below, but thicker towards its upper part, and externally it was covered by the adherent pericardium. The cavity contained a quantity of blood-clot and disintegrated blood. The left ventricle was not hypertrophied, but somewhat dilated; the aortic and mitral valves were healthy; the aorta not atheromatous. Dr. Southey pointed out that the diagnosis in all these cases is uncertain, and that the largest aneurisms often have small orifices. Dr. Wickham Legg thought this aneurism unusually large, the largest on record being a case of Friedrich's, in which it equalled the heart in size. He referred also to a monograph by Pelvet on the subject. Dr. Green thought the case very important, from its bearing on the etiology of the disease. He questioned whether the term "aneurism" was strictly applicable, and inquired what relation pericardial adhesion bore to the sac in such cases. Dr. Southey, in reply, remarked that when the aneurism is large, the pericardium becomes adherent and forms the outer wall of the sac; hence rupture occurs less frequently than in smaller aneurisms. The specimen was referred to a committee consisting of Drs. Southey, Green, and Legg.—*Lancet*, Dec. 19, 1874.

On a Case of Dilatation of the Stomach, with Eructation of Inflammable Gas.

In No. 37 of the *Nederlandsch Tijdschrift voor Geneeskunde* for 1874, Dr. A. HEYNSIUS relates a case of a similar kind to those described and commented on by Drs. Schultze and Ewald (see *London Medical Record*, August 12 and 26). Dr. Heynsius was some time ago informed by one of his friends that an acquaintance of his from time to time caught fire. He said that the patient suffered from violent eructation after eating, and that gas was thereby discharged, which caught fire when a flame was brought near, as in lighting a cigar. This had taken place four times; on two occasions it produced rather severe burns, once of the mouth and lips, and another time, when the gas was mostly discharged through the nostrils, of the nose.

On seeing the patient, Dr. Heynsius found him to be a tolerably well-nourished man, aged thirty-five, a clerk by occupation. He stated that for ten or twelve years he had been much troubled with pain in the stomach. The pain was constant, sometimes more, sometimes less severe; and was not relieved by any medicines. Vomiting first occurred five years previously; in 1872 it was very severe, and was accompanied with violent pain in the back and both sides. At that time, the stomach was several times washed out with the stomach-pump; but this rather increased than relieved the symptoms. Since that time the vomiting had occurred sometimes twice a day, sometimes scarcely twice a week. The vomited matter was always of a very sour taste, never bitter; it was frequently found to contain food which had been eaten some days previously. He had never seen blood in it. Along with this, he was

constantly troubled with a sense of distension in the gastric region, and with violent and offensive eructation. Four years ago, he had just lighted a cigar, when a discharge of gas from his mouth took place, and caught fire. The flame gave little light; it was about as large as the palms of two hands, and the burning was attended with a distinct, though not loud, explosive report. This subsequently happened three times. He had since avoided being very near a flame; when he smoked, his wife lighted his cigar for him. He further said that his bowels had been sluggish, and the feces hardened. At one time, the feces were of a dark colour; but he thought that this occurred when he was taking iron.

Up to the present time the patient had looked fairly well, and had been able to attend to his daily business, which was not very onerous. He thought that he had lost weight in late years, but there was no emaciation of importance. He was of middle height, and well formed. The belly was protruded, especially on the left. The lower ribs on the left side were pushed forwards and outwards. On careful inspection, a bulging was observed extending from the lower part of the left side of the chest downwards, and to the right as far as the umbilicus, ending about four-fifths of an inch to the right of the linea alba. The whole abdomen was tympanitic on percussion; on the left side, however, the intestinal percussion sound could be plainly distinguished from the fuller stomach-sound, which began between the fifth and sixth left ribs, and extended downwards to about an inch and a half below, and about two and a half inches to the left of the navel. The liver-dulness began in the nipple line, at the sixth rib.

On succussion, a splashing sound was heard in the abdomen. There was no trace of tumour.

The patient still vomited frequently. He had no pain in the stomach, but an uncomfortable sense of distension after eating, which was relieved by vomiting or eructation. Meat and milk were ill borne, beef worse than pork; fish, bread, eggs, and buttermilk were much better tolerated; the use of butter appeared to give no trouble.

The case was evidently one of considerable dilatation of the stomach, probably the result of a stricture of the pylorus. That the obstruction was lower down was improbable, as the vomited matter never contained bile, and it was evident that the bile had a free passage downwards, as the feces were always coloured. No decision could be arrived at with certainty as to the cause of the constriction.

After referring to the cases of Popoff, Frerichs, Schultze (and later on of Ewald), Dr. Heynsius says that his endeavours to collect the gas discharged by eructation failed. The patient, who still attended to his business, was at home only a few hours in the day. The chief difficulty, however, was that eructation generally took place very quickly, so that he had not time to apply the tube for collecting it to his mouth. Dr. Heynsius was, therefore, obliged to content himself with an examination of the vomited matter. The reaction was very acid; and, on standing, a separation into three layers took place. The uppermost layer consisted of thick froth, in which the remains of the meal were recognized (the patient had eaten cauliflower, sausage, and potatoes). The middle layer consisted of a semi-transparent yellow fluid. The lowest consisted of a gray granular mass, also containing *débris* of food.

Microscopic examination discovered the remains of food (fat-drops, muscular fibres, vegetable cells, starch granules); as well as the abundance of *sarcina ventriculi* and a not very great amount of *torula cerevisie*.

An examination of the vomited matter was made four hours after its ejection. In the mean time (it was warm weather) the process of fermentation had gone on, and the gas developed had driven the stopper out of the bottle. The vomited matter was raised to a temperature of 95° Fahr., and the gas was collected over mercury. That which first came over contained in 100 volumes, 78 of carbonic acid and 19.2 of hydrogen; while in some subsequently collected the quantities were, carbonic acid 85.5, hydrogen 13.9. No marsh-gas could be found.

Much more carbonic acid and less hydrogen were present than was discovered by Popoff and Schultze in the gases discharged by eructation. The

greater amount of hydrogen in the gas first collected rendered it probable that a still greater proportion of this gas would have been found, if it had been possible to make the examination immediately after vomiting took place. In the distillate from the vomited matter, butyric acid was found.

There could be no doubt that the phenomenon described in this case depended essentially on butyric acid fermentation, and that the hydrogen thereby developed was the cause of the inflammability of the ejected gas. The development of hydrogen probably takes place to a greater or less degree in various affections of the stomach.

In the treatment, temporary relief only was obtained by washing out the stomach with the stomach-pump. Creasote, carbolic acid, quinia, and hypermanganate of soda had little or no effect in arresting the process of fermentation. On the other hand, improvement was obtained by the use of chlorinated water.—*London Med. Record*, Dec. 2, 1874.

On the Use of Oxide of Zinc in the Treatment of Diarrhœa.

From the results obtained by M. Gubler, Dr. HENRY PUYGAUTHIER (*Thèses de Paris*, 1874) considers the oxide of zinc as the most prompt and effectual agent in cases of diarrhœa. Four grammes (about one drachm) of the oxide are given during the day, in doses of one gramme every two hours, in wafer-paper. In order to prevent the formation of salts of zinc, and the nausea and vomiting which would ensue, M. Gubler mixes four and a half grammes with fifty centigrammes of bicarbonate of soda, and has obtained with this mixture the best results. Administered in this way, the oxide of zinc loses its nauseating and emetic properties, whilst it retains all its power as an antidiarrhœic.—*London Med. Record*, Dec. 16, 1874.

On a Second Attack of Bilateral Zona.

Dr. KAPOSI (Moritz Kohn) publishes in the *Wiener Medizinische Wochenschrift*, No. 38, a case of recurrence of herpes zoster. The first eruption affected the left hand, arm, and shoulder, including the skin which covered the trapezius and the scapula, and also the anterior and lateral regions of the chest on the right side. This lasted from April 22 to May 1, and left behind it scars and macule. Some of the former were large and painful, resembling cicatricial cheloid. On June 25, the same patient presented himself with a fresh eruption of zona. The vesicles occupied the back of the left forearm, and closely surrounded a long bleb and a large dark-green crust. The following day the eruption appeared on the left arm, above the elbow, and afterwards spread to the shoulder. One small patch showed signs of gangrene, but otherwise the disease ran a favourable course, and the crusts were drying up, when, on July 8, pain was felt in the right mammary region, followed by a second eruption of vesicles in the same place as in the first attack. This extended over the first, second, fourth, and fifth intercostal spaces in front, but soon subsided. There was no fresh eruption, but the pustules and ulcers of the left arm were painful and long in healing. [The only other case to which Dr. Kaposi can refer is one by Dr. Wyss, in vol. xii. of the *Archiv der Heilkunde*, p. 290. Here the zoster was lumbo-abdominal; the patient said he had suffered from the same disease in the same place thirty years before, and the scars which were still visible confirmed the statement. Bateman, however, says that herpes zoster may occur more than once in the same individual, and Dr. Tilbury Fox says (*Skin Diseases*, p. 202), "The disease rarely occurs twice in a lifetime, but I have known it occur a third time." That zona may extend to both sides of the body without a fatal result has been known from Tulp's case (*Obs. Med.* lib. iii. cap. 44) in 1652, to those narrated by Bärensprung, Hebra, and Hardy.]—*London Med. Record*, Nov. 25, 1874.

On a hitherto undescribed form of Skin Disease.

Dr. H. S. PURDON, physician to the Belfast General Hospital, describes in the *Lancet* (Nov. 21, 1874) this form of skin disease, as follows:—

I have had, during the last nine years, frequent opportunities of seeing patients at the Belfast Hospital for Skin Diseases, who suffered under a peculiar and yet trivial affection of the skin, usually confined to the upper extremities. I briefly noticed this disease in the *Medical Mirror*, August, 1867, when giving the statistics, etc., regarding the patients attending the Skin Hospital. Since then I have had more opportunities of observing the eruption, and now beg to offer one or two remarks thereon.

This affection of the skin is peculiar, and is only met with in those workers who are employed in the "spinning-room" of our flax-spinning mills. Those attacked are usually young girls called "doffers," whose occupation is principally to "doff" or remove the bobbins from the machines, and clean and oil the same. The following case is an example of the disease:—

Arabella C—, aged fourteen, a "doffer," was admitted at the Skin Hospital December, 1873. She has an extensive eruption on both forearms and arms. The skin of the affected parts is dry, harsh, and covered with a papulopustular eruption. The forearms exhibit, scattered over them, innumerable little black specks, showing the orifices of gland-ducts obstructed by sebum, which gets the black spot from dust adhering thereto. In some places the eruption (before the stage of maturity is reached) has a "shotty" feel, somewhat similar to what is felt in smallpox. The skin generally over the patient's body is of a yellowish colour and anæmic appearance. She was ordered to wash the affected parts with soft soap, to use the dilute citrine ointment, and to take a tonic aperient mixture.

As already remarked, the eruption is confined chiefly, if not always, to the forearms and arms of the young girls called "doffers," who are employed in the spinning-room, the temperature of which is high. These girls are lightly clad, even in winter, "perspire at every pore," and after a time their skin becomes of a dirty yellowish hue. The constant sweating makes the orifices of the sudoriparous and sebaceous gland-ducts more open and visible, and then the oil (which is train or sperm oil) with which the machinery is oiled saturates their arms and hands, and clogs and obstructs the orifices of these gland-ducts. The retained secretion, acting as an irritant, gives rise to inflammation, causing in the first instance a papular eruption, which, however, soon becomes pustular at the summit, with a black spot in the centre; these elevations, however, rarely burst or scab. The disease seems to me to be a combination of lichen and acne, if I may so express myself. The papules in the first instance are produced by an inflammation of the follicles due to retained secretion acting as a foreign body, and giving rise to irritation accompanied by prolific cell-growth. I have never met with an eruption similar in appearance, etc., in any of the towns where I studied dermatology, and it seems to be peculiar to the class of people I have mentioned, Belfast being the great centre of flax-spinning.

I wrote to some of my professional brethren who attend the dispensaries in Belfast and the immediate neighbourhood of flax-spinning mills, and who have thus good opportunities of observing this complaint, asking them to give me any information they could regarding it. Dr. Newett, medical officer of the Ligoneil Dispensary, says: "I repeatedly see the cases of lichen-like eruption, chiefly on the arms (if not altogether so), to which you refer." Dr. Spedding, one of the medical officers of the Belfast Dispensary, writes: "I have often observed the eruption you speak of. During the smallpox epidemic it often confused me, when there were symptoms of pyrexia present. It always remains papular, is frequently, in the young, upon the face as well as the arms, and might be mistaken for acne. I have observed that it is only those employed in the hot rooms who have it. In fact, from its presence I can always diagnose the patient to be a 'spinner.' I have never tried any treatment for it, believing such to be useless while they are engaged in a warm moist atmos-

phere." With regard to the eruption being observed on the face, which Dr. Spedding mentions, I think it is accounted for by the person wiping her face, whilst it is perspiring, with oily hands.

On a Rare Form of Skin Disease.

At a late meeting of the Clinical Society of London, Mr. MORRANT BAKER (*Lancet*, Dec. 19, 1874) exhibited a male child a year old, who was the subject of a rare form of skin disease. The child presented a copious eruption over the whole body of slightly raised smooth "plaques," the majority varying in size from a pea to a kidney-bean, some nummular in shape, others oval and wheal-like, in part confluent, forming wheal-like projections measuring from one to two inches in their long diameter. The colour of these patches varied from yellow to yellowish-pink and dull red, the pink and red spots being rendered paler by pressure. The skin was not tender, and there was but little itching. When one of the patches was scratched or irritated, the surface appeared as if blistered. The eruption was most profuse on the back of the trunk, rather less on the face and arms, and least on the legs, while the palms and soles, as well as the neighbourhood of the anus and the buccal mucous membrane, were quite free. The eruption was said to have begun, when the child was six weeks old, as small red pimples, the face being the last region to be affected. During the last four months no fresh spots have appeared. The child's general health is unaffected, it is still suckling, has not been vaccinated, and has never presented any signs of syphilitic taint, the parents, indeed, being perfectly healthy. Mr. Baker remarked upon the doubtful nature of the affection, which, in some respects, resembled the class of erythemata. Dr. Tilbury Fox had recognized the case as resembling in many respects one now under his care.—Dr. TILBURY FOX then exhibited the case referred to by Mr. Baker. The subject, a child two years and a half old, was brought to him in May, 1873, with an eruption strikingly like that in Mr. Baker's case. The eruption had commenced when the child (which was born at full term, and had been healthy from birth) was six weeks old, in two small red patches on the inner side of the left leg and thigh, the appearances being as if it had been scorched or scalded. Then the eruption somewhat rapidly extended over the whole body, the patches, which were slightly raised, being at first of a dull red or dusky copper tint, becoming paler and changing to a fawn colour. The whole body was most thickly covered when the child was first seen, the only change that has taken place being that some of the patches have become paler. At the present time the eruption is most thickly distributed over the skin of the trunk, especially at the back of the neck, the limbs, genitals, and least on the face. The patches vary in size from a split pea to an almond; they are mostly of a fawn colour, are slightly raised, the skin feeling a little tougher than natural where they are seated; in fact, there seems to be a distinct infiltration. Close inspection shows them to be apparently due to a uniform infiltration of the true skin, generally massed in the region of the hair follicles. A few patches also exist on the mucous membrane of the mouth and palate. On irritation the deep copper-coloured patches take on a semi-articular character. The child's health is in no way affected, the eruption was not attended by any symptoms, and there has never been jaundice. The mother is healthy, has two healthy children, but is subject to bilious attacks. There is not the least history of syphilis. The first case that Dr. Fox had seen was one in a child nine months old, which he saw in consultation with Dr. Gream about two years ago. In this case, also a male, the eruption had commenced at the age of six weeks, and had been unattended by any symptoms; the patches, dull and red at first, did not begin to fade for a considerable time. Dr. Fox had also seen a third case, which was at first supposed to be syphilitic. The mother of this child was weakly, and subject to severe flooding, but there was nothing to favour a syphilitic hypothesis, and anti-syphilitic treatment had no effect in curing the disease. Here, as in the other cases, the patches were fading in colour. Dr. Fox remarked upon the close resemblance which the

patches presented to xanthelasma, which was very well seen on the penis in his first case. But there was no evidence of any antecedent jaundice or hepatic disorder in any of the cases, and xanthelasma was very exceptional in children. Mr. Hutchinson had never met with it in such young subjects. It certainly was not urticaria, which is essentially a hyperæmic condition of skin unattended with the deposition of new material, as in these cases. He was inclined then to regard these cases as examples of a very rare and hitherto undescribed form of general xanthelasma, or, if objection be made to the use of that term, he might suggest the somewhat barbarous name "xanthelasma-moidea."

Surgery.

Cases of Syphilitic Reinfection, with Remarks.

MR. GEORGE G. GASCOYEN read a paper before the Royal Medical and Chirurgical Society, on this subject, in which he gave the details of eleven cases of syphilitic reinfection which had passed under his observation, and seven of which he had himself treated for both diseases. Ten of them had previously had general syphilis, and in six of these constitutional symptoms again manifested themselves, while in the other four an indurated chancre only was the evidence of a second contamination. The remaining case was one of well-marked indurated chancre with inguinal adenopathy for the first disease, but the reinfection showed itself as an indurated chancre followed by tertiary lesions without the intervention of any of the secondary affections. The importance of these cases was dwelt upon as evidence that the diathesis created by syphilis may completely wear out and leave the individual free from all trace of his former attack, so that he may become the parent of healthy offspring, and also liable to contract again the disease if exposed to contagion. That examples of syphilitic reinfection cannot be so rare as is commonly supposed was proved by a table appended, in which sixty cases had been collected from various sources; and as in most of them, as well as in those which formed the subject of this communication, a full mercurial treatment had been employed, they were considered to afford strong testimony to the value of the drug, not only as a remedial, but actually as a curative agent in this disease. The author endeavoured to show from these cases what is the real meaning of the induration which commonly accompanies an infecting chancre. He did not regard it as one of the strictly local processes attendant upon or essential to the development of such a sore, but as the first of the so-called secondary symptoms—the earliest expression of a constitutional contamination—which usually manifests itself at the point of inoculation, and which is as pathognomonic of a general taint as any of the affections admitted to be secondary. In most of the cases related the sore followed at once upon intercourse, and it was urged that a period of incubation is by no means necessary to the evolution of an indurated chancre. Much difference of opinion existed on this point, and the author considered that the presence or absence of incubation is determined by the nature of the lesion from whence the chancre has been derived, whether from an infecting sore which is still suppurating and in full local activity, or whether from an indurated chancre which has become indolent and ceased to form pus, or from some other constitutional affection. In the former case, which was regarded as an example of primary syphilitic inoculation, no incubation preceded the pustular origin of the chancre; but in the latter, which constituted an example of secondary syphilitic inoculation, a period of incubation always preceded the papular development of the resulting sore. And as the phenomena which have been observed to follow the inoculation of an indurated sore were precisely the same as those which attend the successful

inoculation of mucous tubercles or of syphilitic blood in a person previously healthy, this fact was considered to afford an additional reason for placing a non-suppurating indurated chancre in the category of secondary syphilitic accidents. Some of these cases of reinfection threw light upon the position which the more remote lesions following upon syphilis really occupy with regard to the disease. Six of the cases recorded (one of the present series and five given in the table) occurred in persons suffering at the same time from tertiary syphilis; and it was sought from this circumstance to show that some of the more advanced symptoms must be the sequelæ of a past, and not the manifestations of a still existent disease. For since it was impossible to believe that two distinct attacks of general syphilis can take place in the same individual at the same time, these later manifestations, characterized by cachexia, ulcerations, etc., which existed when the second contagion took place, must be due to the injury inflicted upon the economy by a previous disease; and the fact that a fresh infection can take place under such circumstances would seem to be convincing proof of the accuracy of such an assumption.

Mr. HENRY LEE regarded Mr. Gascoyen's paper as a highly valuable one. His own experience entirely agreed with what Mr. Gascoyen had stated as to the reinoculability of syphilis on a person who had already had the disease. He was rather surprised to hear that there were so few cases in English literature. He thought that he had published two cases where reinfection had occurred. In cases of reinfection, the character of the sore differed from that produced in a previously healthy subject; it was small, and ran through its course quickly. The period of incubation was not so long as in an original sore; and glands were not so definitely enlarged, and suppuration occurred. The secondary symptoms after reinfection were of the same character as those following original infection, but were milder, and yielded more readily to treatment. He could not draw a distinct line at the period at which a person having had syphilis could be said to be free from the disease: the passing off of the influence took place gradually, like, for instance, that of vaccination. He had treated a patient for syphilis, followed by slight secondary eruption, and who, seventeen years afterwards, was reinfected. On the second occasion there was a small pimple, with enlarged and suppurating glands, followed lately by the development of well-defined copper-coloured blotches. He had also seen a case where there was general enlargement and suppuration of the glands, and which was probably one of reinfection. According to Mr. Gascoyen, induration was essentially a constitutional symptom; hence, if there were no induration, there was no constitutional affection. The results of inoculation after reinfection did not seem to be the same as those of inoculation from a soft sore. He had lately seen some inoculations by Mr. Morgan, of Dublin, in which the cicatrix was raised rather than depressed.

Mr. ACTON said that there was no doubt that reinfection could take place; but he could not understand that this occurred so often as was stated. He had not seen more than ten or eleven cases. He was often called to cases of supposed reinfection; but hardness, not necessarily the result of reinfection, might come on in the site of a primary sore years after the first infection. He had met with a case where a man, supposed to have recovered from syphilis for ten years, again presented symptoms of the disease. Such a case, according to Mr. Gascoyen, if induration were present, would be regarded as one of reinfection. It was an important practical observation, that in cases of reinfection the secondary symptoms were recovered from almost with the mere use of tonics, without mercury. With regard to inoculation from secondary syphilis, he thought that it was a question of great difficulty. Persons having secondary symptoms cohabited for months without producing infection. He had seen attempts made to inoculate secondary syphilis; but the process was a difficult one. It was said that it was very easy to prove that reinfection occurred frequently. Was he to understand that, in order to prove this, surgeons had undertaken the responsibility of inoculating healthy persons? Unless this were done there was a want of data that could be depended on.

Dr. DRYSDALE had been long on the look-out for cases of reinfection; but he had only met with one case, in which a gentleman, who had a primary sore

followed by sore throat and eruption in 1861, having recovered, was reinfected in 1870. He did not think that induration was a sufficient sign of reinfection; for tertiary induration might be mistaken for that of a primary sore, and he believed that many authors had probably made this mistake. He did not agree with Mr. Hutchinson's view that the tertiary symptoms were not really syphilitic. He thought that, to prove that two attacks of syphilis had occurred in the same person, it would be necessary to show that there had been roséola on both occasions. Such writings as those of Mr. Gascogen tended to shake the dualistic theory of syphilis, which he believed correct. He would ask Mr. Gascogen whether syphilitic men ever begot syphilitic children without first infecting the mother. Inoculation from secondary manifestations had always resulted in syphilis. Infection had in some cases taken place by the mouth. Prostitutes must sometimes infect by secondary symptoms; it was scarcely possible that there could be sufficient primary syphilis among them to account for all the cases of infection.

Dr. THUR said that the influence of iodide of potassium in tertiary syphilis indicated that it was not merely due to the wearing down of the constitution.

Mr. TROTTER said that his experience in a regiment for twenty years confirmed the existence of reinfection. It had several times occurred that a man had a hard chancre, and recovered under treatment; and that, after remaining well for five, six, or seven years, he became reinfected. In the interval he had been examined at the regular inspections, so that any sign of disease would have been detected. He was rather surprised that so few cases of the kind were recorded.

Mr. MYERS had for fifteen years looked on reinfection as of common occurrence. He had also noticed cases where, after the healing of an indurated sore, induration was again produced by some irritation, without true infection; in one case this had occurred three times. He regarded induration as local rather than constitutional.—*Med. Times and Gaz.*, Dec. 5, 1874.

On Trephine Wounds and their Dressing.

Means of medical treatment rest generally on exact observation, which, however, is often isolated and partial, and thus the same problems recur at different times to be studied under better lights. The influence of air upon the human patient, sick or wounded, has been a subject of constant research, it may be said, since the time of Hippocrates; and now infectious, contagious, putrid, gangrenous, and pestilential affections, are attributed to miasms or other toxic and parasitic elements contained in the atmosphere, and determining local or epidemic accidents of very variable extent and gravity. Surgery has recognized from all time the action of the air upon wounds, and the *Académie de Chirurgie* at the end of the last century chose for its prize-subject the question—"On the Influence of the Air in the Treatment of Wounds." The application of balsams, unguents, aromatics, camphor, certain metallic preparations, alcoholates, camphorated *eau-de-vie*, found its partisan in each case. These questions, however, have not ceased to be discussed, and we commence at last to comprehend the high importance of media, the knowledge of which is indispensable to a rigorous appreciation of biologic phenomena.

Such was the state of surgery relative to the dressing of wounds, when the experiments of Pasteur led to the supposition that ferments were the sole cause of infectious complications, and that it would be possible to remedy these by sheltering the wound from the atmospheric protozoic elements. The question was of too great interest not to be at once studied.

The most able experimentalists (and it is sufficient to cite the name of M. Dumas) have compared the action of numerous substances which prevent or arrest fermentation. Carbolic acid, recommended by Dr. Déclat, who, more than any one, has generalized its use, and by Mr. Lister, of Edinburgh, whose carbolic dressings are universally known, was declared a most powerful antiseptic. Phenol, coal-tar, tar, alcohol, alcoholates, hyposulphite of soda, various slightly caustic solutions, etc., have been tried and recommended.

Filtration of the air by carded cotton, proposed by Pasteur as a means of purification from pan-spermic germs, has become a prophylactic method against traumatic infection; and now that these modes of treatment are multiplying, we may discuss and compare their advantages.

The success of trephining seems due to antiseptic dressings, to washing (in Sédillot's special cases) the wound with an aqueous solution of hyposulphite of soda and of carbolized alcohol (one in ten), and applying a plaster composed of thirty parts of glycerine and one of carbolic acid, with pulverized chalk mixed to a semi-liquid paste, spread upon tinfoil, and covered by a bandage.

The problem of this treatment of wounds presents four factors, whose combinations are very complex :—

1. The known or supposed ferments ;
2. The media in which these ferments are developed ;
3. The state of the organism and of the traumatism ;
4. The antiseptics intended to prevent and combat local and general effects of ferments.

1. There have been classed, according to Cagnard de Latour and Turpin, a large number of ferments ; but there are still among the unknown those supposed to be the cause of infectious and contagious maladies, such as erysipelas, hospital fever, carbuncle, etc. The origin, organization, modes of propagation, and multiplication of the different species, their varieties of action or of nocuity, are equally open questions. Septicæmic blood, prepared by M. Davaine, killed some of the animals experimented with even in infinitesimal doses ; and if atmospheric ferments are so redoubtably the source of traumatic complications, it is none the less true that the most dangerous wounds are habitually without accident when the surrounding air is not vitiated. May we not, then, conclude that there is little danger of pan-spermic changes in the normal conditions of life ? This danger arises with the courses favourable to the multiplication of fermentary corpuscles.

2. The consideration of favourable or specific media occupies an important place in the problems to be solved. Heat and humidity, decomposition of animal and vegetable matters, large collections of living beings (towns, hospitals, camps, etc.), confined air, all play an important part in the production and propagation of epidemics.

3. Men offer to these ferments resistance that varies greatly, with race, sex, rank, idiosyncrasy, age, constitution, state of health, etc. Certain individuals are particularly accessible to morbid causes. The least scratch will determine with one an abscess, with another gangrene and the most deplorable accidents, whilst with others the deepest and largest wounds are very readily healed. Wounds, according to their nature, their causes, and their irregularities, are not exposed to the same chances of infection. Thus the conditions to be analyzed in order to draw certain conclusions and determine error are very complicated.

4. The means of preventing and combating the effects of ferments on wounds form another kind of study. Filtration of the air, the immense pan-spermic recipient, appears to be the prophylactic process that is most effectual ; whilst the curative treatment comprehends the destruction of ferments by antiseptic substances of external or internal application. If the ferments have already penetrated the organism, and render it necessary that we should pursue them there, how are we to destroy them without alteration to the elements with which they are bound up ? We may cite, as examples, the success of vaccine against variola, of quinia against certain fevers, of mercury against syphilis ; but nothing goes to prove that these maladies are due to ferments, and their generalization as parasitary ferments, although in itself rational, still requires scientific demonstration.

A dressing for trephine wounds that has been successfully used by Dr. Sarazin, surgeon-major to the Military Hospital at Bourges, is a solution of ten per cent. of tar in water made alkaline with soda without causticity. This liquid cleanses and rapidly disinfects the wound, which may be covered with a layer of tar and wadding, in two courses, to a finger's thickness. This dressing has been used in a case of amputation of the thigh, two of the leg, three of the

breast, a resection of the elbow, one of the knee, and in many cases of wounds by fire-arms, etc. The many cases of resection of the knee successfully accomplished by antiseptic aid, indeed, may be considered scientific evidence of the value of this comparatively recently introduced system of medicine.—*Lond. Med. Record*, Dec. 23, 1874.

On a Case in which a Foreign Body remained for Five Years in contact with the Iris without exciting Sympathetic Ophthalmia in the other Eye.

In the *Annales d'Oculistique*, July and August, 1874, Dr. SAVARY (du Mans) describes a case which occurred in his own practice, that of a French lady, aged fifty, who had met with a severe fall five years previously, her foot tripping upon a hard road. She was much injured by falling upon some flints. The left eye was seriously injured, but the exact nature or seat of the hurt was not very clearly made out, although she underwent much active treatment at the time; for four months there was continued pain, at the end of which the eye, while it retained its shape and form, was quite blind. After a period of three years the pain returned, and Madame R. sought further advice at the hands of a surgeon, who detected the presence of a foreign body within the eye, and who made an ineffectual attempt, though in what way is not clear, to remove it. After another fifteen months, and after much pain, Madame R. applied to Dr. Savary, who found the pupil of the left eye fixed by adhesions, and blocked up by pigmented membrane, through which the opaque lens could be made out. Within the anterior chamber was a grayish-white substance, adherent behind to the iris, and in contact with the cornea in front. This substance filled the lower part of the chamber, and the cornea over it was hazy, and presented the mark of an old horizontal scar. The globe was soft and painful on pressure, and the ciliary congestion and intolerance of light were excessive. The right eye was in every respect normal.

The diagnosis was that, in all probability, a fragment of stone was imbedded in the anterior chamber, although it might well be that the case was one of cyst of the iris from excessive exudation; in either case some interference was called for, but there would very likely be a difference of opinion as to whether some attempt should be made to find and to remove the foreign body, or whether an abscission or even the removal of the entire eye was advisable. It was determined to search for the foreign body, although the dangers and difficulties of operating upon a globe, which was disorganized by prolonged inflammation, were obvious, and not underrated. The attempt was, however, made, and without chloroform. The cornea was incised at the periphery, and a foreign body, encrusted with exudation, was readily detected, and extracted with the forceps. There was no prolapse of iris, and but a slight amount of bleeding into the chamber. The pain subsided in a few hours, and when the dressings were removed the following day, the wound was quite healed, and without undue reaction. At the end of a week the eye was quite quiet, and the patient was convalescent, and able to leave the hospital free from pain, and from all inconvenience, the eye, of course, remaining quite blind. The question of determining the existence of a foreign body is surrounded with difficulty, and the writings of our foremost ophthalmic surgeons give very uncertain advice as to the proper course to pursue when there is only a probability that a foreign body has remained within an injured eye. There are some who would wait the appearance of symptoms of irritation, while there are others who would at once remove an eye which was injured to a degree which would interfere with vision, quite apart from the existence of a foreign body within it. Probably these two extremes of treatment are unwise, but it must be allowed that even at this time very many cases of sympathetic ophthalmia are met with which might well be prevented.—*London Medical Record*, Oct. 28, 1874.

On the Diagnosis of Embolism of the Arteria Centralis Retinae.

In this paper (*Klinische Monatsblätter für Augenheilkunde*, August-September, 1874) while he admits the admirable skill and cleverness with which the late Von Graefe laid down the ophthalmoscopic appearances which attend embolism of the central artery of the retina, Dr. ZEHENDER yet inclines to believe that at the present time there is a tendency to describe as instances of embolism certain cases which, while they resemble in many points the pictures which Von Graefe has sketched, are nevertheless wanting in one or more features of importance.

The phenomena which are usually said to betoken arterial embolism are sudden loss of sight, and a pallor of the termination of the optic nerve, with a narrowing or even obliteration of the arterial trunks; later on there is associated with these appearances a remarkable opacification of the retina in the neighbourhood of the yellow spot, and the subsequent appearance in this opacity of distended bloodvessels. It is the value of the latter change which Dr. Zehender calls in question; and in support of his disbelief he gives the details of a case which has lately occurred under his own observation; and to show that he is not alone in his mistrust of certain changes in the fundus being pathognomonic of embolism, he refers to the opinions of Loring and Magnus on the same point.

A countryman, aged twenty-one, without any exertion of any kind, and without being in any way able to account for it, became suddenly blind in the right eye, on the evening of April 25, and after an interval of four days he applied to Dr. Zehender. The vision of the left eye was perfect, and its refraction was normal. With the right eye he could but just discern the light of a candle at two inches; when it was held at a greater distance he could not see it at all; no reason whatever appeared for this sudden onset of blindness. On examination of the defective eye, the blood-red appearance of the fovea was distinctly seen, in contrast with the hazy appearance of the infiltrated retina in its neighbourhood; the vessels in this situation were evidently fuller than was natural, and more clearly seen; here and there a minute glistening yellowish-white point could be seen in the immediate proximity to the fovea. The appearance of the fovea exactly tallied with the well-known illustration in Liebreich's atlas. The arterial branches, as they passed through the optic disk, appeared empty and bloodless; but the veins on the other hand were full, and as a remarkable fact there was a very decided venous pulse, the existence of which is an argument against the occurrence of embolism, inasmuch as its presence was an unerring witness to the continuance of the circulation. Two small veins which entered the disk on the temporal side were diminished in calibre. At the commencement of the attack, the man had suffered severe headache. On the eighth day afterwards two small hemorrhagic spots to the inner side of the fovea were seen; by the twelfth day these had disappeared, and their place was occupied by small glistening specks, apparently containing crystals of stearine. In the course of time the veins dwindled, and the pulsation was no longer evident, and the case then assumed all the ordinary characteristics of arterial embolism. An examination at the hands of Professor Thierfelder demonstrated the existence of ventricular hypertrophy associated with insufficiency of the mitral valve; a loud systolic murmur was audible at the apex, and the second sound was muffled. The pulse at the wrist was somewhat later than the heart's systole. In reporting this case, Dr. Zehender asks whether it was really one of arterial embolism, or whether an extravasation of blood around and between the optic nerve-fibres would not give rise to a similar phenomenon.

In the *American Journal of the Medical Sciences* for April 1874, under the heading Remarks on Embolism, will be found an account of five cases which possessed, in a greater or less degree, the so-called characteristic features of embolism, and which had been diagnosed as being of that nature; but the narrator, Dr. LORING, thought that there was room for doubt as to the correctness of the diagnosis, inasmuch as he was at a loss to understand how the mere

obstruction of the arterial trunk could occasion all the subsequent changes which the fundus of the eye is seen to undergo.

At page 319 of this number of the *Monatsblätter* will be seen a short review of a paper published on the same subject by Dr. HUGO MAGNUS; from which it appears that he too was unable to reconcile the appearances met with in these cases with the occurrence of embolism, but was disposed to consider them as the result of hemorrhage into the sheath of the optic nerve, or between the fibres of the nerve itself. He considers that it is not impossible to diagnose between the two conditions, and he should look upon the peculiar infiltration of the retina around the yellow spot as the result of pressure on the nerve from hemorrhage, rather than as the result of the arrest of the arterial supply. The absolute and sudden blindness, or the limitation of the visual field, will be of importance in forming an opinion of the seat of the lesion also. Magnus finds his opinions to be strengthened by the result of a series of experiments which he has carried out, in which he has both made injections into the sheath of the optic nerve, and has obstructed the circulation through the nerve by means of ligatures, and has then carefully noted the consequences. In the result, he is strongly of opinion that many of the so-called examples of embolism should in reality be looked upon as instances of hemorrhage either within the sheath, or between and amongst the fibres of the optic nerve.—*London Medical Record*, Dec. 16, 1874.

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On the Treatment of Trichiasis and Distichiasis by a Plastic Operation.

In an interesting communication (*Medical Times and Gaz.*, Nov. 14, 1874), Mr. W. SPENCER WATSON observes that "the inversion of the eyelashes, whether as a result of blepharitis or other causes, is often so troublesome, and imperils the sight so much, that the patient is willing to submit to any operation for its removal. Hence the old-fashioned operation of 'scalping the lid,' thus excising the whole row of eyelashes, has been the most commonly performed, because it is very successful as a rule, and the amount of deformity remaining is insignificant as compared with the constant irritation and danger associated with the malady itself.

"But it occurred to me that by transplanting the offending row of eyelashes we might obtain the good effects of the 'scalping' method without any subsequent disfigurement; and in two cases in which I have done this the results have fully answered my expectations. The first case (one of distichiasis, published in the *Ophthalmic Hospital Reports*, vol. ii. p. 440) presented a double row of eyelashes in the middle third of the upper eyelid, the innermost row being directed downwards and inwards, and causing great and constant irritation of the cornea. This double row was transplanted in a single flap, and its place supplied by a second flap, taken from the skin of the eyelid above and parallel with the first flap.

"The irritation of the cornea very quickly subsided, its partial opacity very much cleared, and vision was correspondingly improved. The scars left by the operation were, in the course of a month, quite invisible except on very close inspection, and the appearance of the patient (a young woman) was not only not deteriorated, but actually improved.

"In the second case, the whole length of the upper eyelid was occupied by eyelashes growing inwards and downwards. The patient was a clerk, aged forty years, who had suffered from blepharitis involving the eyelashes and their bulbs about two years and a half before I saw him in April, 1874.

"He was in the habit, ever since the commencement of the inversion, of plucking out the eyelashes by the roots every two or three weeks, but even then suffered occasionally much pain and inconvenience.

"I therefore proposed and performed the following operation, the patient being under the influence of chloroform:—

"The inner and outer halves of the lid were each separately subjected to a proceeding similar to that described in the first case. Thus, a flap was formed of the inner half of the tarsal margin, with its free end close to the inner can-

thus, and its attached end at the centre. A flap was then taken from the skin above this, corresponding in length, but having its attached end opposite the free end of the lower flap. The two flaps were then reversed, the upper one being stitched into the original position of the lower, and the lower into that of the upper. A similar proceeding was repeated for the outer half of the tarsal margin and its hair bulbs. The two upper flaps now lay along the ciliary margin of the lid, their free ends meeting in the centre, where they were retained in apposition by stitches. The lines of incision were then covered with collodion and cotton-wool. On the 18th day after the operation the last two stitches were removed, and the flaps remained in their new positions. A portion of the extreme end of one of the lower flaps had sloughed and separated, but this had not interfered with the general effect. Two months and a half after the operation, the eyelashes had grown to their full length in the new direction, viz., directly forwards, and the patient had suffered no inconvenience whatever. The scars of the incisions in the eyelid were quite unobservable, and the only trace of the cutting operation was a slight irregularity in the tarsal margin near the centre. This, I have no doubt, will wear out in time, and the result will become more and more perfect.

"There is one point in the operation that ought to be strictly kept in view. In taking the two upper flaps, their free extremities above the centre of the tarsal margin must not be allowed to meet; a bridge of skin must be left for the nourishment of the two lower flaps, which would otherwise be cut off from their vascular supply. The necessary length of the two upper flaps can be obtained by making the incisions obliquely upwards, and so leaving a bridge undivided between them. It would probably appear simpler to take a single flap below and a second above, but this would endanger the nutrition of each, whereas by treating each half of the lid separately we obtain a good vascular supply for each, and insure a more speedy union of the cut edges.

"I claim for this operation that it is more easy of performance than Arlt's or Graefe's, and quite as, if not more, effectual. If only one or two, or a few eyelashes in a group are inverted, a method proposed by Snellen, and performed successfully by Mr. Brittin Archer and myself, may be adopted. This consists in passing a needle, threaded with a noose of human hair, through the edge of the eyelid immediately in front of and a little above the offending eyelash or eyelashes, and carrying the needle upwards and forwards about one-sixteenth of an inch above the normal line of eyelashes; the noose is now slipped over the faulty eyelash, and the latter drawn through with it and out at the upper aperture. In this way it assumes a direction forwards and upwards, and will generally retain this new position. But this operation, if applied to a whole row of eyelashes, as in trichiasis, would be, at least, tedious in performance and probably imperfect in its result."

— *On Ranula.*

L'Union Médicale of June 25 and 27, contains a paper by M. FORGET upon foreign bodies in Wharton's duct, and their connection with ranula, which was read at the Surgical Society. M. Forget deals critically with two papers bearing on the subject, the one by Dr. Claudot, the other by Dr. Ferrier.

M. Claudot's consists of two parts. In the first he narrates various cases of ranula, and concludes that they differ in their origin, their seat, and their nature. Hence, he classifies them into—

1. Mucous cysts (dilatations of the muciparous follicles).
2. Salivary cysts (distensions of the salivary ducts).
3. Serous cysts (Fleischman's bursa).
4. Dermoid cysts (closed cavities of new formation).

M. Forget, passing over the earlier parts of the essay, takes exception to the serous cysts which are said to have their origin in Fleischman's bursa. M. Claudot gives no proof of the anatomical existence of such a bursa. He only says that in 1842 Fleischman believed he had discovered one in the linguo-maxillary furrow, and that he there fixed the seat of ranula. But, unfortunately,

the description Fleischman himself gave of it showed that it was nothing but the lax cellular tissue which all anatomists have recognized in that situation. Neither does Jobert (De Lamballe), who follows Fleischman, give any anatomical proof of the existence of the bursa. According to him the direction and shape of the serous cyst itself indicate the situation and direction of the bursa, which has been its original point of departure. The tumour, he says, becomes prominent at the side of the tongue. It is never situated in the central line, because of the resistance of the thick muscular plane there formed by the genio-glossus, the genio-hyoid, and the digastric muscles; it tends, therefore, to place itself at the sides, and to insinuate itself between the muscles and the submaxillary gland; it may develop itself on both sides, and may become prominent at the same time both in the neck and in the mouth.

Now, says M. Forget, it is incontestable that sublingual tumours which offer these clinical features form the great majority of what are commonly called ranulas; must we then conclude with Jobert, not merely that they occupy a closed cavity formed at the expense of the laminated tissue, but even that they arise in a pre-existing natural cavity, which was discovered by Fleischman, and rediscovered by M. Tillaux. It must rest with anatomists to decide who are right; but at present the balance of authority is against Fleischman. M. Tillaux says the bursa is not always found. Well then, it has probably no very important physiological use; and this leads us to ask whether, when it exists, it is not merely accidental or abnormal? If it had a physiological use it would be constant.

M. Tillaux has striven to show that the accumulation of saliva in this cavity, from a communication with Wharton's duct, gives rise to cases of acute ranula. But the proof is defective, while on the other hand M. Dolbeau has cited cases of acute ranula arising spontaneously, whose sudden appearance could not be explained upon the theory suggested by M. Tillaux; and the author has himself reported a case of the same kind which could not be explained in this manner. There is, therefore, need for further investigation before the point can be considered settled.

The second part of M. Claudot's essay is occupied with lesions of the salivary ducts, produced by foreign bodies in their interior. Of these foreign bodies some are introduced from without; others, such as salivary calculi, have their origin within.

A few examples are given of foreign bodies introduced from without. The first is that of a shoemaker, who had a painful swelling in the region of the submaxillary gland, with ulcerations at the orifice of Wharton's duct. A probe was passed, but no calculus or other foreign body could be felt. Three months later the patient complained of pricking pain under the tongue. The surgeon examined the floor of the mouth, and drew out a pig's bristle, such as the man used in his trade. He speedily recovered.

The next case is that of a soldier, who had a fluctuating tumour the size of a pigeon's egg, beneath and to the outer side of the tongue, in the region of the submaxillary gland.

There was also a second almond-shaped swelling of which the narrow end corresponded to the orifice of Wharton's duct. M. Claudot thought at first that these swellings were probably connected with a concretion in the salivary ducts. However, after making a close examination, he came to the conclusion that there was no foreign body present. After using palliative treatment for a week with little effect, he slit up the orifice, and the bistoury struck a small, rough body, which was drawn out, and proved to be a fragment of an ear of corn, upon which the salts of the saliva had formed a concretion. The cure was rapid and complete.

A third case is that of M. P., who, after having supped upon fish, awoke in the night with sharp pain and swelling in the region of the submaxillary gland. Leeches were applied, and some relief given. Between 1837 and 1842 the patient suffered two sharp attacks similar to the first. All this time the swelling continued; the pain got worse and worse, the tongue deviated, and mastication was impeded till at length M. P. could only take fluid food. It was not till 1842 that the surgeon probed Wharton's duct, and detected a calculus,

which he proposed to remove on the morrow. After this probing the patient felt a pricking pain under the tongue, and, placing himself before a looking-glass, he observed a sharp-pointed stone protruding, which by the aid of a large pin he succeeded in extracting for himself. The concretion was cone-shaped, and was formed around a fishbone.

Though such cases are comparatively rare in the human subject they are said to be common in horses and other domestic animals. Immediate removal is the essential point in the treatment, otherwise a false passage may be the result. The following case treated by M. Ferrier illustrates this.

A patient, R., had a tumour on the level of the lower jaw, which had been growing for two years. Six months before his admission to the hospital this began to press on the tongue, while it increased also on the outer side; and there was a whitish, fetid discharge on the level of the frenum. A month later a smooth white stone of conical shape came away. The base was rough, as if the calculus had been broken off from a larger concretion, which remained behind. The patient got somewhat better, but as the symptoms returned and it was evident that there was still some concretion in the salivary passages, and that the gland was inflamed, Mr. Ferrier (wrongly, as M. Forget thinks) made an incision on the outside of the neck, as if he had been going to tie the lingual artery, and dissected out the submaxillary gland. No concretions were found in the gland-tissue, which was only inflamed. A few days later caustic was introduced into the wound, and subsequently caustic arrows were inserted. When the eschar separated, a fistulous track was felt, and the fetid discharge continued. At length, after the patient had suffered much, the fistula was examined with the finger, and a hard substance was felt. The fistula was dilated, and a calculus removed. The fistula then speedily healed, and in two months the patient was well.

M. Forget condemns the treatment adopted in this case, and says that the second portion of the calculus ought to have been removed from the mouth like the first, and that the submaxillary gland should have been left entire — *London Med. Record*, Aug. 5, 1874.

— On Operating for Umbilical Hernia.

In a paper published in the *Bulletin de Thérapeutique* for Oct. 30, M. DEMARQUAY, after alluding to the almost invariably fatal issue of operations for strangulated umbilical hernia, describes a new mode of operation by means of which he has been enabled to save one out of the four patients upon whom he has put it into force. He has never seen recovery follow the ordinary operation performed after attempts made at reduction, which are usually futile in consequence of the numerous old adhesions. After the operation, too, by which the peritoneum has been largely opened, only a small portion of the intestine can be usually returned, and fatal peritonitis is the almost invariable result. Many surgeons, indeed, refuse to operate at all when the hernia is voluminous and the patient aged. M. Hervez de Chégoin during his long career has only met with one successful operation, and the case is given at length by M. Demarquay on account of the rarity of the success which attended it. It occurred in a stout woman sixty-six years of age, in whom a large and partially reducible hernia had existed for forty years without giving rise to any accident. The operation was performed on the sixth day after symptoms of strangulation came on, the sac being exposed and opened by crucial incisions, and a large quantity of omentum being excised before the strangulated intestine was exposed. The constricting ring was divided on the left side and reduction effected, omentum several inches in thickness remaining outside, and the wound being only lightly dressed. The omentum mortified and came away on the fifteenth day, and cicatrization promptly followed. M. Hervez was induced to operate in this case, although strangulation had lasted so long and the general symptoms were unfavourable, because, although the abdomen was much distended, it was not very painful. However, success like this is of very rare occurrence, and M. Demarquay has been led to adopt the following mode of operating. In

place of making a crucial or linear incision and largely opening the tumour in order to investigate the condition of the parts, he extends an oblique incision from the middle portion of the tumour towards the left side of the abdominal wall, avoiding thus both the umbilical vein and the linea alba. The celluloadipose tissue is then divided, layer by layer, until the pedicle of the hernial sac is reached, when a small incision is made at the lower part of the left side of the sac. Through this the end of the left index-finger is introduced so as to rest on the orifice of the hernia. Along the finger a falciform bistoury is passed, and an incision of at least two centimetres is performed—this incision implicating the left side of the circumference of the hernial sac and cutting through all the substance of the abdominal wall at this point, which generally is not thick. There being no important vessels on this side, no bleeding follows, and the tumour becomes less tense. An interrupted suture is carefully applied and covered with collodion. The great object of this operation is to divide freely enough to remove the strangulation, and then to leave the parts as they are. The sac is only interfered with to a small extent, and air cannot enter and exert an injurious effect upon the inflamed surfaces. The aim of the operation is to remove the strangulation by a *débridement* of three or four centimetres, and then, if the intestine has not been too much compressed, and it as well as the omentum are still only in a state of congestion, the parts concerned will become disgorge and their functions re-establish themselves, and this even when there is a little herniary peritonitis. No taxis should be resorted to after the operation, for most of these intra-omental hernias are irreducible, and attempts at reduction will only do mischief. M. Demarquay has only met with success in one out of four cases, and these were women not advanced in age, but then he only adopted this procedure after reiterated attempts at reduction. For greater success he believes it must be resorted to promptly before inflammatory action becomes localized in the omentum, intestine, or hernial sac, and especially before any general peritonitis occurs. Modern surgery has shown us that wounds of the peritoneum when it is in a sound state are not attended with the danger formerly supposed, and our endeavour should be to act before it becomes inflamed, and especially before the patient becomes exhausted by pain, sleeplessness, and vomiting, which render reaction impossible.—*Medical Times and Gazette*, Dec. 5, 1874.

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On a Case of Strangulated Femoral Hernia, Reduced by Large Injections of Oil, after Stercoraceous Vomiting had existed more than three days.

Mr. WILLIAM ADAMS, Surgeon to the Great Northern Hospital, in presenting his report of this case to the Medical Society of London, made the following remarks (*British Med. Journ.*, Dec. 26, 1874):—

“The case which I have thought of being brought under the notice of the Society this evening, is one of great practical importance in reference to the treatment of strangulated hernia, and also of some cases of obstruction of the bowels in which the cause of obstruction is more obscure. The treatment essentially consists in the injection of a very large quantity of mixed oils, viz., two quarts of olive-oil, three ounces of castor-oil, and three ounces of turpentine, mixed together; and this may require to be repeated. The injection is slowly performed, and a long gum-elastic tube, about nine or ten inches in length, is used. This practice of injecting oil was first brought under my notice by my friend Dr. Kavanagh, of Deptford, who adopted it successfully in a case of strangulated femoral hernia, the details of which I will now read to the Society.

“On Thursday evening, March 13, 1873, I was sent for by Dr. Kavanagh to a case of strangulated hernia at Deptford. I found the patient, Mr. B., aged forty-eight, suffering from strangulated femoral hernia on the left side. The hernia was small, but well defined, and the symptoms were severe. All efforts to return the hernia by the taxis, aided by the warm bath, etc., had failed, and stercoraceous vomiting had set in at 4 P. M., the day previously (Wednesday).

"The history of the case was, that on Sunday previously (March 10) he had eaten heartily of veal for dinner, and that on Monday he did not feel well. He naturally attributed it to indigestion, and on Monday night took some aperient pills.

"On Tuesday the 11th, the bowels acted slightly, but he felt ill, and complained of pain in the abdomen. He had no pain in the situation of the hernia; but was aware of the existence of the rupture, which, he said, had existed for thirty years, and had first occurred after being thrown out of a gig. He was doubtful whether it had ever been completely reduced, though it fluctuated in size, and he had never worn a truss.

"On Wednesday the 12th, he complained of great pain in the abdomen, and vomiting set in; and at 4 P. M. this became of a stercoraceous character. Attempts were made by Dr. Kavanagh to reduce the hernia by taxis in the warm bath, but without success: and the patient persisted in the idea that the obstruction was in the upper part of the bowel, as there was still no pain in the rupture, and the pain was referred to the upper part and right side of the abdomen.

"On Thursday the 13th, the patient remained in the same state, and in the afternoon I was telegraphed for. At 8 P. M. I saw him, in consultation with Dr. Kavanagh, who at once agreed with me in the propriety of operating. The patient, however, obstinately refused the operation, principally from his conviction that the obstruction was seated higher up in the bowels, there still being an absence of pain at the seat of hernia. After making an unsuccessful attempt to reduce the hernia by taxis, I returned to town.

"On Friday the 14th, the patient remained in the same state, stercoraceous vomiting continuing every ten minutes. He still refused the operation. All nourishment, in the form of beef-tea, brandy, etc., was rejected as soon as taken. Dr. Kavanagh resorted to the injection of oil, but without success, the oil being immediately rejected.

"On Saturday afternoon, the 15th, I saw him again, in consultation with Dr. Kavanagh. The patient was then in an extremely exhausted condition, beef-tea and brandy being rejected as soon as taken; pain still continuing over the central and upper part of the abdomen, and absent at the seat of hernia. The abdomen was tense, and there was tenderness on pressure, but this did not exist in any marked degree in the neighbourhood of the hernia, so that the patient still held to his opinion that the obstruction was higher up in the abdomen. After a conference had been held with the members of the family, a very reluctant consent might have been wrung from the patient, but his wife still obstinately objected; and as, from the extreme exhaustion and abdominal pain, little hope of success could be held out to the family, the operation was not performed, and I had no expectation of seeing him alive again.

"On Sunday the 16th, I saw the patient again with Dr. Kavanagh, and was surprised to find that the hernia had been spontaneously reduced in the night (about 2 A. M.), and that the bowels had been copiously relieved. The patient was in a very exhausted condition, but free from abdominal pain and tension, and he had been able to retain a considerable amount of nourishment, having taken as much as half-a-pint of brandy and two pints of beef-tea.

"In explanation of this extraordinary recovery, Dr. Kavanagh informed me that, seeing the apparent hopelessness of the case, he again resorted to the plan of injecting large quantities of oil. On the Saturday night, between eleven and twelve o'clock, he slowly injected into the bowel, by means of a long tube, nine or ten inches in length, two quarts of olive oil, three ounces of castor-oil, and three ounces of turpentine mixed together. The effect of this was, that about 2 A. M. the hernial tumour receded completely, and between three and four o'clock the bowels were copiously relieved; beef-tea and brandy were now retained on the stomach. The patient remained in an exhausted and drowsy condition for some hours.

"From this period the recovery was rapid, and in a week he was able to resume his business avocations. He has worn a truss ever since, and is now in good health.

"Dr. Kavanagh informs me that in three other cases of intestinal obstruc-

tion, accompanied with stercoraceous vomiting and intense abdominal pain, but without external hernia, he has successfully adopted the same practice of persevering with the injection of large quantities of olive-oil, mixed with castor-oil and turpentine. In one of these cases, the symptoms had existed eleven days before he was called in; and the success was complete. In all the cases the injections were not retained at first: nevertheless, they were repeated at intervals, and at last were retained; and to this steady perseverance no doubt much of Dr. Kavanagh's success in these cases has been due."

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Successful Removal of the Testicles, Scrotum, Penis, and Suprapubic Skin for Epithelial Cancer.

Mr. THOMAS ANNANDALE, Surgeon to the Edinburgh Infirmary, reports (*Lancet*, Dec. 12, 1874) the following interesting case:—

Peter B., æt. thirty-one, was admitted into my wards on Oct. 7, 1873, on account of epithelial cancer affecting the genital organs. The disease had originated in the extremity of the penis four years ago, and had since gradually implicated the surrounding parts. On admission, the greater portion of the penis had been destroyed by the disease, an ulcerated mass of epithelial cancer occupying the position of the organ. The greater part of the scrotum was involved in the disease, which had destroyed the superficial textures, and become adherent to the testicles. The skin and cellular tissue over the pubes were also affected with the disease to an extent of rather more than two square inches. The entire disease presented the appearance of a large, irregular, ulcerated surface, implicating the parts enumerated, with hardness and discolouration of the tissues forming the circumference of the sore. There were one or two glands slightly enlarged in the right groin, but this enlargement appeared to be the result of simple irritation, and was only of recent origin. The patient had much difficulty and pain in passing water. His general condition of health was fair, but he noticed that he was becoming markedly emaciated.

As it seemed to me possible to remove the entire local disease, and as the patient's strength was considered good enough to admit of an operation which did not involve any great loss of blood, I undertook, with his consent, to remove the diseased parts after a careful consideration of the case.

On the 15th of October I performed the operation in the following manner: An incision being made over the external abdominal ring on one side, the spermatic cord, including its vessels, was carefully cleared, and, a ligature of strong silk having been placed round it, it was cut through below the ligature. The same proceeding was adopted on the opposite side, and then the root of the penis, having been exposed by dissection as far back as possible, was cut across, a temporary ligament being first passed round it. In this way the testicles and diseased remnant of the penis were detached, and all bleeding from their vessels was prevented. The next step consisted in dissecting away the whole disease and a margin of healthy texture from the scrotum and suprapubic region, including the detached organs. The vessels of the penis were now secured separately, and any other vessels which bled were also tied. The result of the operation was a very large wound, the edges of which could not of course be brought together, but a few stitches through the perineal portion slightly diminished this part of the wound. The whole wound was freely sponged with DeMorgan's solution of the chloride of zinc, and lint soaked in carbolic oil was applied over it.

Oct. 23. The patient's progress since the operation has been most satisfactory. His temperature is now normal, and his general health is improving. The wound continues to be dressed with carbolic oil, which is renewed every two hours.

Nov. 1. The general condition and wound are still progressing favourably; the latter is steadily contracting. The orifice of the urethra remains free, and the patient passes urine easily and without pain.

Dec. 30. To-day the patient was dismissed cured, and much improved in health, his emaciation having quite disappeared. The wound is now healed,

and the orifice of the urethra remains open, so that there is no difficulty in passing urine. It is also noted that the glandular enlargement has much diminished.

The patient promised to report if any return of the disease took place; but as up to this date (December, 1874) he has not been heard of, it is understood that he remains well.

Remarks.—This case is encouraging in connection with the treatment of epithelial cancer, and proves that a serious operation may be successfully performed for its relief, provided that the entire disease can be removed, and the patient's condition admits of such a proceeding. The duration of the disease and the marked improvement of the patient's health after its removal point very decidedly to the *local* nature of the cancer in this case. The prevention of hemorrhage during the operation was an important question in this case, for it is well known that the vessels connected with the genital organs bleed freely when divided. The method adopted in the present instance for restraining the hemorrhage was most successful, and the operation was completed with a comparatively slight loss of blood—a circumstance which no doubt assisted in promoting the excellent recovery of the patient.

On Exarticulation of the Hip-joint, with Formation of a Posterior Flap.

This operation, described by Professor LANGENBECK in the *Berliner Klinische Wochenschrift*, for November 16, 1874, was performed on a man twenty-eight years of age, for the removal of the thigh-bone, from which sprang a large soft sarcomatous growth, extending down to, but not involving the capsule of the knee-joint. The method adopted by Langenbeck was as follows: First, the femoral artery was tied beneath Poupart's ligament, the limb enveloped in the "bloodless apparatus," and a Lister's aortic compress applied. The patient was laid upon his back, with the thigh flexed, and the incision commenced above the trochanter major with its convexity directed downwards, over the entire posterior surface of the upper part of the thigh, and terminating at the border of the inner surface of the thigh and perineum, at the origin of the abductors. The flap was separated as far as the tuber ischii. Next, the thigh being extended, the extremities of the flap were united by an oblique incision, immediately below the Poupart's ligament, which readily opened the articulation. So far the operation was bloodless; but, after the limb was removed, and the aortic compress probably shifted, the pubic, gluteal, and several small vessels spouted, and were immediately tied with catgut ligatures. The flaps were then brought into exact apposition, and a drainage-tube placed in the wound. The patient made a good recovery in about six weeks, and could bear a wooden leg.

Disarticulation of the thigh-bone has, since the American and Franco-Prussian war, somewhat fallen into disrepute. In Langenbeck's civil practice the results are not bad, since, in four cases in which the operation has been performed for osteomyelitis or tumour of the thigh-bone, three lived; and in his communication of eight cases of disarticulation for gunshot injury (Berlin, 1868-9), only one survived. The Americans consider "shock" to be the cause of the great mortality, as influenced by the removal of one-fifth part of the body, or the division of the great mass of nerves. Langenbeck denies this cause of shock, since it would be equally the same in civil practice, and considers that the cause lies in the fact of the great loss of blood.

In the campaigns of 1864 and 1866 all these operations were performed too late, and all turned out unfavourably, as they did in the late war.—*Lond. Med. Record*, Dec. 9, 1874.

Double Tibio-Tarsal Amputation.

Dr. LÉON LE FORT presented to the Academy of Medicine a patient, on whom he had performed a double tibio-tarsal amputation. The patient was twenty-three years of age, and was the subject of caries of the bones situated in the external border of the foot. The os calcis was sawn horizontally

through, so that the inferior portion of the bone and skin of the heel might be preserved. The wound healed rapidly, and the patient can now, without any prothetic means, or even the aid of a stick, walk several miles. As may be seen, M. Le Fort's procedure is simply a modification of Pirogoff's operation, with this difference—that the Russian surgeon sought to preserve the length of the limb by cutting longitudinally through the os calcis, which he then turned up; but, the weight of the body being thrown on this part, the posterior portion of the heel, which must necessarily be sensitive, walking must be attended with a certain amount of pain and difficulty. This inconvenience is obviated by M. Le Fort's method.—*British Med. Journ.*, Dec. 26, 1874.

Case of Popliteal Aneurism.

MR. MORRANT BAKER, at a late meeting of the Clinical Society of London (*Lancet*, Dec. 19, 1874), read some interesting notes of a case of popliteal aneurism. The patient was a man forty years of age, who had contracted syphilis twenty years before, and whose mother had died of cancer. Two years before admission a small swelling appeared in the right ham; this swelling had gradually increased, the leg becoming stiff and painful. Pulsation was noticed in the tumour six months before admission, and the pain became more paroxysmal, being most severe at night. On admission the right popliteal space was occupied by a large pulsating tumour measuring twenty inches and one-third in circumference; there was no lateral expansion, but a purring bruit could be heard which followed the pulse. The skin was tense and reddened, the knee-joint the seat of effusion, while the end of the femur seemed enlarged. The inguinal glands on both sides were enlarged. The patient had emaciated very rapidly. While under observation the bruit at times disappeared and then re-appeared, while the effusion in the knee-joint diminished. Mr. Rouse ligatured the femoral artery, and for a few days the tumour decreased in size, pulsation ceasing. A few days after the operation the tumour again enlarged, and became painful, the leg becoming œdematous. Then followed sloughing of a patch of skin over the tumour, displaying layers of fibrin; the tumour then fully suppurated, while the œdema of the leg increased, followed by gangrene of the foot. Amputation of the thigh was performed. Examination of the limb after removal showed a large aneurism of the popliteal artery, the outer and inner walls of which had sloughed away, so that a cavity had been formed filled with clot partly disintegrated, the popliteal trunk entering the sac above and the tibial arteries leaving it below. The popliteal vein was plugged by adherent clot. The patient made a good recovery. Mr. Rouse remarked upon the difficulties in diagnosis of this case: the bruit and pulsation were unlike those of aneurism; while the rapid wasting, the effusion into the joint, and enlargement of the femur, together with the family history of cancer, pointed strongly to pulsating tumour of that bone. As illustrating this difficulty, he quoted the case of a man who was admitted into St. George's Hospital in 1865, with a large pulsating tumour in the right ham, the skin over the tumour being white and tense, while the knee-joint was enlarged by effusion and thickening; there was a distinct bruit, and the tumour diminished in size on applying pressure over the femoral artery. The patient being unable to bear the continued pressure of a tourniquet, the femoral was tied. Two days after the operation pulsation recurred. Secondary hemorrhage set in, and the patient died sixteen days after the operation. The tumour proved to be a large irregular encephaloid mass arising from the lower end of the femur. There is also a preparation in the museum of St. George's Hospital of an enormous popliteal aneurism, in which, from the absence of pulsation during life, it had been mistaken for malignant disease. A second feature of interest in the case was the occurrence of a slough over the tumour. Mr. Rouse had only met with one case on record—viz., in the *Gaz. Hebdomadaire*, 1868, p. 100—where sloughing of the skin with separation of layers of clot followed upon the cure of a popliteal aneurism which had become diffuse. The popliteal nerve was also paralyzed. Lastly, the supervention of gangrene was of interest, following upon the obstruction

in the vein, due to pressure of the inflamed and suppurating sac.—Mr. Barwell referred to a case of a large aneurism of the popliteal which had burst and become diffuse, in which amputation was performed under the impression that the tumour was malignant. There was no pulsation in the tumour, which occupied the whole ham overlapping the femur. The superjacent skin was of a blue colour. In this case it appeared that the man, having rested for a few days after the rupture of the sac, had been enabled to resume his work for three weeks before applying for admission to the hospital, a new sac for the false aneurism being formed from the greatly thickened and condensed tissues. Preparations of this case are preserved in the museums of the Royal College of Surgeons and Charing-cross Hospital. Mr. Barwell inquired whether the gangrene in Mr. Rouse's case did not result from thrombosis of the femoral vein following the ligature of the artery, for he had seen cases where this operation had been followed by thrombosis in the companion vein. He thought this to have been more likely than that the pressure of the sac on the popliteal vein should have given rise to thrombosis in this vessel, for from the free discharge from the sac its pressure would be lessened.—The president, in drawing attention to the absence of pulsation, which occasionally occurred, in Mr. Rouse's case, related the particulars of two very interesting cases in which the absence of pulsation nearly led to a very great error. One, a man under the care of Dr. Fuller, was admitted for great and persistent pain in the lumbar region. The abdomen was carefully examined, but without result, and Dr. Fuller at first regarded the case as one of rheumatism of the lumbar muscles. By and by a swelling appeared in the lower part of the belly on the left side: there was no pulsation, and it was generally agreed that the case was one of psoas abscess. The swelling increased much in size, and extended below Poupert's ligament. Mr. Hewett frequently pointed out the case to his pupils as a typical one of psoas abscess, but which he would let alone, as he was not in the habit of laying open large abscesses. The skin then became red, and the abscess appeared on the point of rupture. Instead, however, of bursting, it forthwith diminished in size, until it could hardly be felt. During the whole time the pain from which the patient was suffering was very intense, and it even became more so as the tumour subsided. The man died suddenly with symptoms of collapse very soon after he had been asking to be injected with morphia in the day as well as at night, on account of the increased severity of the pain. Mr. Hewett had previously remarked that it was rare to have such prolonged and persistent pain in the back, save in cases of aneurism or cancer. At the autopsy there was found a large aneurism of the descending aorta, which had ruptured into the belly. At no time had pulsation existed, and there had been a narrow escape of opening it. The second case was one of femoral aneurism, for which Sir Benjamin Brodie had tied the external iliac; the man left the hospital cured, but returned a few months later with recurrence of pulsation in the tumour; this was arrested by pressure from a leather splint applied over the limb. The tumour, however, again increased, and six months later it had attained the size of a cricket-ball. It was then thought to be malignant, but the patient survived for five years, eventually dying of phthisis, the pulsation having ceased after continuing for eighteen months. The original diagnosis of aneurism was then confirmed, and the case showed that an aneurism might continue to enlarge without pulsation being present. Mr. Hewett also related a case of rapid gangrene of the whole lower limb, which followed upon a gunshot wound in the ham of a boy; amputation at the hip was performed, and it was found that of the two shots that had entered the limb, one was lodged in the popliteal artery, the other in the vein. Here signs of gangrene set in within twenty-four hours of the injury.—Mr. Morratt Baker related the particulars of a case in which a large fluctuating, non-pulsating, but very painful tumour had appeared in the gluteal region. The diagnosis was abscess, but only blood flowed on exploratory puncture; still it was thought possible that a vessel might have been wounded, and Mr. Baker, after consultation with one of his senior colleagues, enlarged the opening, and finally laid the sac freely open. A large blood cavity between the muscle and bone was thus exposed, blood welling up from the great sciatic notch. The common iliac was tied, the patient surviving two days. At the

post-mortem there was found caries of the sacro-iliac synchondrosis with ulceration of one of the branches of the gluteal artery.—Dr. Southey related a case in which the prominent symptom was extreme pain in the lumbar region, greatly increased by movement. There was more dulness in the left loin than normal; the man was very pallid; heart's impulse forcible, but free from murmur. The dulness in the loin increased, and some fulness appeared, and then a decided tumour, but no pulsation. In a few days, however, a distinct thrill was perceived over the tumour, the pain increased, and œdema of both lower limbs occurred from pressure on the iliac veins. Sudden death took place within ten days, and an aneurism was found springing from the descending aorta close to its bifurcation; it had become diffuse, and extended to Poupart's ligament.—Mr. Warrington Haward also related a case of abdominal aneurism in which pain in the back was positively the only symptom. Mr. Holmes had repeatedly examined the case for aneurism with negative result. At one time the patient was thought to be malingering. Death occurred from rupture of the sac.—Mr. Rouse, replying to Mr. Barwell, stated that the popliteal vein in his case was entirely occluded by a firm partially decolourized clot, softening in the centre.

Treatment of Fracture of the Clavicle.

Dr. CHAS. E. SLOCUM, of Defiance, Ohio, states (*Medical Record*, Jan. 9, 1875), that the form of dressing, in his opinion, superior to all others in simplicity, ease to patient and surgeon, and efficiency of results, is Professor Sayre's adhesive-plaster plan, modified and applied as follows:—

Three straps are employed.

The first encircles the arm of the injured side close to the borders of the axilla, and is then carried over the lower end of the scapula and around the body tight enough to hold the shoulder well back.

The second piece commences over the point of the sound shoulder, and is carried obliquely across the back and over the olecranon of the injured side, drawing the elbow forward and close to the side, and then extending obliquely across the chest front to the place of commencement.

The third strap commences over the pectoral muscle, and is carried snugly over the point of the shoulder of the injured side, and obliquely down the back.

This third strap can be made a material aid in antagonizing the unfavourable action of the sterno-cleido-mastoid, subclavius, pectoralis minor, and deltoid muscles, while the support the shoulder derives from its influence in fixing the scapula and otherwise, materially contributes to the comfort of the patient and the favourable result.

To prevent pain and embarrassment of the circulation in the arm by the first strap, I employ a splint extending from near the point of the shoulder well down over the biceps muscle. This splint should be solid, hollowed to fit the arm, and just wide enough to prevent the strap from compressing the arm too much laterally.

The strap around the splint and arm should be stitched together to prevent slipping, and be loose enough to leave the arm a little free posteriorly.

The straps are cut three or three and a half inches in width, and should be stitched together if one continuous strap cannot conveniently be obtained long enough to encompass the body.

The forearm, suspended in a sling, can be raised or lowered at will, if the elbow becomes painful.

When properly applied, this plan forms a dressing for this frequent injury which will insure comfort to the patient and recovery without deformity.

Midwifery and Gynæcology.

On the Diagnosis and Treatment of Peritoneal Extra-Uterine Pregnancy.

In the *Archives de Tocologie*, September, 1874, M. DEPAUL contributes an article on this subject. In four previous articles he has dilated more fully upon the signs and symptoms that diagnosticate this affection; and the various pathological conditions that exist with or without pregnancy, and certain isolated phenomena which complicate it at times. In spite, however, of the real difficulties arising from these pathological states, and in spite of the coexistence of isolated phenomena which occasionally complicate extra-uterine or uterine gestation, he believes that an almost certain diagnosis can be arrived at after the sixth month. In deciding, it is necessary to pass in review the particular conditions of the case; all are not equally favourable. Up to the end of the fourth or fifth months, the signs are those of uterine gestation; even if they differ in a few particulars, they are not incompatible with normal foetation, or are too slightly marked to attract attention. In the first place, it must be decided whether the woman is really pregnant. The foetal pulsations remove all doubt, and, later on, it gradually becomes apparent that the foetus is not *in utero*. The deviation of the cervix begins to be more and more marked, and its consistence is no longer in harmony with the period of gestation. The conformation of the tumour, which is by degrees drawn to one side of the abdominal cavity, does not present the usual appearance of a gravid uterus. The foetal parts are more superficial, and are surrounded with less liquor amnii. The head and breech often form two projections which stretch across the abdominal parietes, which are sensible to the sight or touch. The transverse diameter of the tumour is sometimes longer than the vertical. It is obliquely placed, and appears to be attached inferiorly to one or other of the iliac fossæ. The uterine souffle is relatively more rare than in normal pregnancy.

Nevertheless, all the above-named characters may be absent. The cyst may be ovoid, like the uterus; the liquor amnii may be as abundant as in the normal gravid uterus. In one case related by the writer in a previous article, there was dropsy of the amnion, which considerably increased the difficulties of diagnosis; happily new symptoms showed themselves, which dissipated all doubts.

The foetus may live beyond the usual term of gestation, but as a rule it dies in the last two or three months. From whatever cause, the death of the child is shortly afterwards frequently signalized by symptoms which would lead to the belief that labour was near, but it does not occur. More or less acute pains arise in the abdomen and loins, often assuming the character of expulsive pains.

It is incontestably true that the uterus often increases and takes part in the scene; there is a sanguineous discharge; the decidua, which is hypertrophied, is expelled in its entirety or in parts, as has been more than once proved by the microscope. M. Depaul is persuaded that this very commonly, if not constantly, occurs, though it has escaped the attention of most observers, from the *débris* being lost on the linen or mixed with clots. Occasionally the orifices of the uterus are half opened, so as to permit the introduction of the finger. In a case mentioned in a previous paper this was very marked. As a rule, however, the cervix presents an unusual position, and is reached with difficulty; and when felt, it does not correspond with the period of gestation. This peculiarity is one of the most important guides to diagnosis; should the cervix be very highly placed, and pushed either forwards or backwards, there should be no hesitation in introducing the hand into the vagina, to make out its exact condition, chloroforming the patient if requisite.

In the early stages, when all is uncertainty, the employment of the uterine sound is inapplicable; but later on, when the cessation of the action of the foetal heart shows the child to be dead, not much harm can accrue even if the pregnancy be intra-uterine. M. Tarnier prefers the finger; he gradually forces it into the cavity of the uterus, overcoming the resistance of the two orifices.

The kind of spurious labour mentioned above is of variable duration, and

recurs one or more times. In the intervals the condition of the woman is far from being normal; there are fevers, rigors, and vomitings; the abdomen is painful in places. The pains have nothing in common with those which depend on uterine contraction; they are continuous, and are intensified by pressure of the hand; there is inflammation of the cyst, and they are the result of repeated peritonitis.

The breasts, which had exhibited the various degrees and modifications of pregnancy a few days after the death of the foetus, show signs of lactation; they swell, become hard, and milk escapes, sometimes in sufficient quantity to soil the articles of dress. The inflammatory symptoms which precede or generally follow very close upon the death of the child may be absent, but this is very rare. Sometimes, after having been repeated many times with a variable intensity, they subside, the general good health returning. The cyst remains more or less stationary a long time, gradually diminishing through absorption of the liquor amnii and mummification of the foetus, and may remain in the abdominal cavity without causing any mischief.

The writer relates a case to prove this, which happened in M. Guéniot's practice, where an extra-uterine pregnancy arrived at term, accompanied with symptoms simulating labour with inflammation of the cyst and death of the foetus, the woman making a complete recovery. Although there are several cases on record with a like termination, yet as a rule the result is different, ending in the death of the woman, as in the following instance which came under the observation of M. Guéniot, where the pregnancy arrived at the full time, the foetus dying within ten days, and the mother at the end of the eleventh month of gestation. The cyst ruptured into the bowels, and the fluid was discharged *per anum* and by the mouth.—*London Med. Record*, Dec. 9, 1874.

On the Success of Subcutaneous Symphyseotomy in Contracted Pelvis.

Dr. PICCININI, of Cassano Magnago, Lombardy, writes in the *Lyon Médical*, October 25, 1874, as follows: Though symphyseotomy was born in France, it was soon abandoned there, and if modern text-books give it a place among obstetrical operations, it is only on account of its historical interest.

Professor Pietro d'Erechia (of Naples) attributes the rejection of this operation to three causes. The first is the accepted custom in France and England of always sacrificing the child for the safety of the mother; the next is the invention of Baudelocque's cephalotribe, which is superior to the hook of the English practitioners; and lastly, the prevalence of induced premature labour, which permits us to avoid the disagreeable consequences of a pregnancy, by arresting it at any given moment.

It appears to me that, besides the causes mentioned by D'Erechia, there is another of greater importance, namely, the want of a definite rule to decide for the surgeon how much pelvic contraction indicates, and how much forbids, symphyseotomy, followed by the immediate application of the forceps. This is what has induced me to publish the ideas which guided me in this operation, which I performed with perfect success in May, 1870, saving both mother and child.

Symphyseotomy, in cases where the contraction had reached two inches and a half (about sixty-five millimètres), had given such bad results that it was soon abandoned. It was, therefore, important to fix precisely the degree of narrowing which permitted the operation, the moment at which it was indicated, and the immediate and subsequent precautions which should insure its success.

Symphyseotomy, that is the section of a fibro-cartilage, is, in itself, an equally harmless and simple operation. Joulin alleges that it is impossible, beforehand, to determine with perfect accuracy the amount of contraction and the volume of the foetal head, so that it might be necessary to follow the first operation with a second, to wit, the application of the forceps, and that this would add greatly to the danger of the former, and would be liable, according to him, to rupture the sacro-iliac ligaments. I do not hesitate to treat such allegations as absurd.

In the first place, it is rare for a practitioner, with the many accurate instruments we now possess, to fail to determine exactly the amount of contraction. There is no reason to fear the application of the forceps, which, according to me, should follow every symphyseotomy, and I never have had occasion to deplore the accidents to which Joulin alludes. I presuppose, of course, that the forceps are applied by a skilful accoucheur. According to Joulin, symphyseotomy will permit the separation of the articular surfaces to the extent of from one inch to one inch and a half, which he holds corresponds to merely one centimètre's increase of the antero-posterior diameter. Experience shows that this is not the case. Professor d'Erchia has performed symphyseotomy in a case of contraction to two and one-half inches (sixty-five millimètres), and according to me it should not be done where there is less than three inches (eighty millimètres), and with the forceps he delivered a living child immediately afterward. The mother survived this application of the forceps, which, according to Joulin, should cause death by tearing the sacro-iliac ligaments.

As for me, the results of my practice are sufficient data; the amount of space permitting the operation is from three to three and a half inches; after the operation, the forceps should be applied with care, and, by gentle traction and slight rotary movements, the child will be gradually delivered without further pain to the mother, or any traumatic complication. With a contraction to three inches, symphyseotomy will give an additional half inch, and the forceps as much more, making the antero-posterior diameter practically four inches, which is, certainly, a most satisfactory result.

Position of the Patient.—The woman should lie on her back, on a strongly inclined plane, the pelvis supported by a pretty hard cushion, and the head being the lowest part. It is clear that by this position the head of the fœtus is prevented from pressing on the pubes, and the operation is thus facilitated.

Preparatory Catheterisation.—It is indispensable that the bladder should be empty during the operation; apart from the gain in the antero-posterior diameter, the bladder will be less exposed to injury from the instruments. It is well, after the evacuation of the urine, to depress the bladder with the point of the catheter, or, better still, to put it on one side, lest it should be caught under the arch of the pubes during delivery.

The Section of the Fibro-cartilage is to be performed by the subcutaneous method, according to the usual rules. The fold of skin may be made above the clitoris, and the best instrument is a slightly curved tenotomy knife, with a blade which must offer a certain amount of resistance.

A Bandage for the Body must be arranged beforehand, and, after the operation, moistened with a solution of gum, so as to make it immovable. Its object is to prevent any separation of the thighs, either by a movement of the patient, or by an accident on the part of those carrying her; indeed, she should not be moved till it is nearly dry. By the subcutaneous method, the suppuration is avoided which would otherwise increase the dangers. Another advantage is the suppression of sutures; for the soft parts, which by this method are spared, contribute greatly to holding the pubic surfaces in place.

To recapitulate, the conclusions of this paper are the following:—

1. Never perform symphyseotomy when the pelvis is contracted to less than three or three and one-half inches (80 to 95 millimètres).
2. Operate by the subcutaneous method.
3. After section of the cartilage, apply the forceps.
4. The position of the patient, the previous catheterisation, the immovable bandage are details of great importance to the success of the operation.

To conclude, let me recall the statistics of symphyseotomy during five years at the hospital at Naples: operations, nineteen; women saved, fifteen; children saved, sixteen.—*London Med. Record*, Dec. 16, 1874.

Local Anæsthesia in Cases of Labour.

Dr. FRIEDLANDER relates, that, being called to a woman who was suffering intolerable pain in the sacral region, he resorted to an application of chloroform (one part) and ether (two parts), after having vainly tried several other

means. He obtained by this means total cessation of all pain until perfect delivery. After having successfully tried the same application in a great many cases, he recommends its employment as an anodyne for the pains of parturition.—*Lancet*, June 2, 1875, from *Deutsche Klinik*, No. 30, 1874.

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On the Indications afforded by the Sphygmograph in the Puerperal State.

At a late meeting of the Obstetrical Society of London, Mr. FANCOURT BARNES (*Lancet*, Jan. 9, 1875) read a paper on this subject. He pointed out the extreme high tension in primiparæ before labour; its disappearance after delivery; the appearance of a characteristic tracing on the second or third day, with the milk fever, showing fulness, some diastolic, an absence of tension, a frequency of about 120 beats per minute, and a well-developed percussion stroke. He showed the gradual return of the pulse from this date to its normal state. He considered the high tension in pregnant women due to—

1. Hypertrophy of the heart; 2. Increased amount of blood; 3. Additional strain on the kidneys caused by the added effete matter thereby to be excreted; 4. The vascular system not having accommodated itself to the added physiological work; 5. Functional increase of nerve-force during pregnancy. He said that if the high tension made its reappearance after delivery it might be looked on as an omen of coming albuminuria, with eclampsia and uræmia. Here he considered the sphygmograph to afford aid in the prophylactic treatment of these diseases.

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Nitrite of Amyl and Belladonna in Dysmenorrhœa.

Dr. MARY PUTNAM JACOBI (*Medical Record*, Jan. 2, 1875), at a late meeting of the New York Medical Journal and Library Association, read a paper upon this subject.

The clinical history of three cases was given to illustrate the method of operation of the above remedies. All three were cases of severe spasmodic dysmenorrhœa. They were treated by administering belladonna for several days previous to the occurrence of menstruation, and nitrite of amyl by inhalation during the paroxysm. This treatment, it was believed, had a rational basis.

The argument in its support was founded upon the data furnished in the second case, in which were manifest three sets of phenomena:—

- (1.) Vomiting, pallor of skin, cold hands and feet.
- (2.) Extraordinary peristaltic action of the intestines.
- (3.) Spasmodic pain in the uterus.

All these point towards one element, namely, that of spasmodic contraction of blood-vessels.

First, the so-called sympathy between the uterus and the stomach, and between the stomach and brain, were fully considered in their dependence and interdependence with reference to the symptom, *vomiting*.

It was believed, reasoning from the experiments of Schiff and others, that the vomiting of pregnancy, vomiting of sea-sickness, and many cases analogous in character, was due to the same cause, namely, anæmia of the brain, producing spasmodic contraction of blood-vessels at its base.

It was further argued that anæmia of the intestines produces contractions or increased peristalsis, due to spasmodic contraction of blood-vessels.

There are three conditions in which a hollow muscular organ can contract in a state of vacuity.

- (1.) After direct irritation of its nerves.
- (2.) After direct irritation of its muscular fibre.
- (3.) After changes in its circulation.

A detailed account of six experiments was given. The experiments had been performed upon rabbits. The abdominal cavity was opened, the intestines drawn out and carefully protected in a bag of oil-silk, which was kept immersed in a vessel of warm water; the uterus exposed, and the abdominal

aorta exposed. The aorta was then compressed with a ligature, and the result carefully noted.

Several waves of peristalsis ran *down* the rectum, but never in a contrary direction. Contraction of the uterus occurred, and was distinctly visible at the middle third of the organ. Upon removal of the ligature the contractions ceased. The time at which contractions appeared after compression of the aorta was made, also the duration of the contraction after compression had been removed, were carefully noted. The conclusion made from the experiments was, that tonic contractions of the uterus may be excited by occlusion of the aorta, and that such contractions continue from one to four minutes after compression has been removed. Clonic contractions also occurred, after the type of contractions of masses of smooth muscular fibre.

What bearing do the results of these experiments have upon the treatment of spasmodic dysmenorrhœa?

The pain in these cases is dependent upon tonic and clonic contraction of the uterus.

These, in turn, are dependent upon some cause. Of the conditions in which a hollow muscular organ can contract in a state of vacuity, direct irritation of muscular fibre and direct irritation of nerves were excluded. Consequently we are obliged to fall back upon changes in the circulation of the uterine walls. If the change of the blood-vessels passes to an irritation, spasmodic contraction must take place, and uterine contractions will be determined by local anæmia.

Spasmodic contraction of blood-vessels resulting from irritation of vasomotor nerves is the cause of the pain of spasmodic dysmenorrhœa. It is upon these considerations that the remedies suggested are used. The *secondary* effect of belladonna is dilatation of the blood-vessels.

Belladonna is to be administered, therefore, previous to the occurrence of menstruation, for the reason that it is desirable to obtain the *secondary* effects of the remedy.

Nitrite of amyl is used for the purpose of relaxing blood-vessels. This is in accordance with the admitted physiological action of the remedy.

This method of treatment, of course, is more especially adapted to cases of spasmodic dysmenorrhœa; but it has been found, both in the experience of the author of the paper, and in that of others, that great relief may be afforded even in those cases in which the dysmenorrhœa depended upon displacements, constriction of the cervix, etc.

The method is, to administer belladonna in ordinary doses for several days previous to the occurrence of the menstrual flow, and when pain comes, to administer by inhalation from two to six drops of the nitrite of amyl *p. r. n.* In one case a single drop of amyl was all that was required.

Dr. Sell remarked that he had been in the habit of administering nitrite of amyl by the mouth, and had obtained just as good results as he had obtained when the remedy had been inhaled. He prescribed it in one-drop doses, combined with drachm doses of peppermint-water, and repeated every half hour. In one case of dysmenorrhœa, and one only, he had used the nitrite of amyl, and in that case the patient was completely relieved of pain.

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On Threatening Symptoms following Vaginal Injections.

In a paper read before the Society of Gynæcology, in Berlin, on April 21, 1874 (*Berliner Klinische Wochenschrift*, September 21), Herr EBELL states that threatening symptoms (sudden pain, sickness, coldness of the extremities, faintness, etc.) similar to what is observed after catheterisation of the bladder or injections into the urethra, occur also after vaginal injections. Text-books do not regard it at all, and only few cases are related in journal-literature. These were given by him, together with four instances that came under his own immediate observation. Of these four, three occurred in women with retroflexions, who had been confined six weeks, one year, and two years respectively. The fourth case happened in a woman with antelexion, who was delivered nine

months previously of an abortion, and had been treated two years before that with a sponge tent.

The medicated lotions were injected in each case by the women themselves by means of an enema-pump.

The symptoms passed off in every instance without further consequences. Concerning the etiology, the following features are to be regarded.

1. The women are very sensitive, and the too elevated or too reduced temperatures of the injections bear the blame.

2. Inflammatory collections in the neighbourhood of the uterus are irritated through stretching of the vagina (Voisin), or the diseased (carcinoma, Scanzoni) walls of the vagina become injured.

3. The fluid passes into the uterus, causing shock.

4. There is such a thing as entry of air into the veins of the pregnant uterus (Olshausen, Depaul, Litzmann), or into a vaginal vein eroded by carcinoma (Stofella).

In the discussion that ensued, Dr. E. MARTIN stated that he believed that these phenomena, excepting under the above-mentioned quite exceptional circumstances, are not to be attributed to the vagina, but had to do with the entry of air or fluid into the uterus. He observed it once in a very anxious case, where from chronic fluor albus the uterus had got into a very relaxed condition. In this instance, most probably, a bent horn-tube was pushed up into the uterus. A second time he saw it after an injection in a pregnant woman, and death followed from entry of the air into veins. The temperature of the injection was of importance. Bearing upon this point he had met with a case where a woman who had been confined fourteen days was seized with intense pain after each warm injection, whereas, with water at about 62.5° to 64.5° Fahr., no such pain was occasioned.

Herr Fasbender saw the above-described symptoms, with marked participation of the bladder, once after a vaginal injection in an ante-flexed sub-involved uterus, with the external os somewhat patent. Herr Ebell proposed to obviate the dangers suggested by Dr. E. Martin, by having only side openings to the vaginal tube of the irrigator.—*London Med. Record*, Dec. 9, 1874.

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Retroversion of the Gravid Uterus ; Retention of Urine ; Recovery.

Dr. ARTHUR W. EDIS, Assistant Obstetric Physician to the Middlesex Hospital, reports (*British Med. Journal*, Dec. 26, 1874) the following instructive case:—

M. J., aged 27, married six years, mother of three children, the youngest eighteen months old, when about four months pregnant, whilst lifting one of her children from the ground, experienced sudden inconvenience in the lower abdomen, necessitating her lying down for a time. After this, she felt nothing until later in the evening, when, on attempting to pass urine, she found she was unable to do so. Various simple remedies were tried; and the patient, after passing a restless and uncomfortable night, sent for her medical attendant, who lived four miles off. Diuretics, in combination with hyoscyamus, were prescribed, and the patient was enjoined to remain quiet. On the following day, no urine had been passed. The patient was in a state of extreme distress, feverish, with constant desire to pass urine, and a sense of distension in the lower abdomen. Hot poppy-head fomentations, with opium internally, were now ordered, and the patient was visited night and morning; but no examination of the abdomen was made, or any attempt to relieve the bladder by means of the catheter attempted. Some dribbling of urine took place during the evening; but the straining, bearing down, and general distress, continued as before. A second night was passed in a semi-comatose half-delirious state, from the effects of opium; and on the following morning I was requested to see her. I found her lying in bed, evidently in much agony. The pulse was over 120; the skin dry, hot; the abdomen was enormously distended, dull on percussion, and fluctuation was distinct.

On examining *per vaginam*, the enlarged fundus uteri was found to be im-

packed, resting on the floor of the pelvis; the os uteri, scarcely detectable, lay high up behind the symphysis pubis. The nature of the case was self-evident. After some little difficulty, a No. 8 gum-elastic catheter was passed, and two large chamber-vesselsful of turbid urine were drawn off. After waiting a short time to allow the patient to recover from the shock, she was supported in the knee-shoulder position, and pressure made *per rectum* on the fundus uteri, care being taken to direct it laterally, so as to avoid the sacral promontory. Reposition was thus effected without any serious difficulty, and the patient was enjoined to lie as much as possible in the prone position. No recurrence of the displacement took place. With the aid of hot fomentations, the patient was enabled to pass urine without further resort to the employment of the catheter. She convalesced rapidly, and went her full time.

Remarks.—I have purposely suppressed mentioning any names. The case is chiefly of interest, as showing the necessity of a local investigation in all cases of retention of urine in the female. The fact of her being pregnant had not been ascertained previously to my seeing her. Dr. Gervis narrated two fatal cases of this nature at a recent meeting of the Obstetrical Society.

On a Case of Submucous Fibroid of the Uterus.

Dr. A. BIDDER, of Manheim (*Berliner Klinische Wochenschrift*, Nov. 16, 1874), reports a case of large submucous fibromyoma, growing with a broad base from the anterior wall of the uterine cavity. He pulled it down to the vaginal orifice and cut it away with the scissors, applying the actual cautery to the raw surface to prevent hemorrhage, which was slight during the operation; rapid cure followed. The following are the more important features of this case. The uterus was anteverted and above the pubes, freely movable, with a subperitoneal fibroid at the fundus; the os was nodular and admitted the tip of the finger; examined during menstruation, the os was dilated about five centimètres, encircling a smooth, round solid mass projecting into the vagina; the finger could not reach up quite as far as the upper border of its seat of attachment, even when the uterus was powerfully depressed through the abdominal walls. When re-examined after the hemorrhage had ceased, the cervix could now only admit two fingers, and could reach no higher although it was pulled down with Museux's hooked forceps. Bleeding returning, an injection of a solution of iodine, of the strength recommended by Savage, was injected into the uterine cavity, which had the effect of arresting the hemorrhage, and causing the tumour to descend still lower through the os, with, it is true, intense pain. The tumour was close upon the outlet. The top of the insertion of the body was now felt for the first time; the base was more than six centimètres wide. It could be drawn through the vaginal orifice easily with the hooked forceps; the insertion was about twelve centimètres long and nine centimètres wide; there was no proper pedicle. A thick thread was passed through at its border between the tumour and the uterus. The *écraseur* (Mayer and Meltzer's) broke. The scissors were used to divide the bands of loose connective tissue between the capsule and the tumour. Little blood was lost. As a precautionary measure, the whole surface of wound was cauterized by the actual cautery, then bathed with ice-water; the thread was removed, and the uterus replaced. An ice-bag was applied to the abdomen for three days; the temperature rose the first two days, then became normal and continued so. Menstruation returned the next month with moderate loss, and since then has been normal. The effect of the injection of the iodine solution is particularly noteworthy, as stopping the hemorrhage and exciting contraction of the uterus, which considerably aided its removal.—*London Med. Record*, Dec. 23, 1874.

On a Case of Thrombosis of the Utero-Ovarian Veins, with Metastatic Abscesses in the Lungs.

Dr. SALVATORE SPIAGGIA describes this case in the *Gazzetta Clinica della Spedale Civico di Palermo*, fasc. ii. & iii., 1874. The patient was a woman

aged thirty-nine, who had been married twenty-two years, and had had five children and two abortions. In December, 1873, she was attacked with slight rigors, followed by great rise of temperature. The attacks recurred daily, from the 17th to the 31st, on which day she aborted. Quinia was given; the febrile paroxysms, however, continued. On January 31, she was admitted into hospital. There was found to be considerable enlargement of the spleen, with disturbance of the circulatory, and especially of the respiratory organs. She rapidly grew worse and died.

At the necropsy, thirty-two hours after death, the lungs were found to be almost universally adherent to the thoracic walls, and were literally stuffed with purulent deposits of various sizes. In a portion of the right pleura which remained free from adhesion, about 400 grammes (fourteen ounces) of sero-purulent fluid were found. The deposits contained pus-globules, fat-granules, and *débris* of pulmonary tissue, immersed in a fluid which to the naked eye had the appearance of milk rather than pus. The bronchial mucous membrane was uniformly reddened; the pulmonary tissue surrounding the deposits was reddened and hard (as if hepatized), and presented signs of interstitial hemorrhage. The arteries and veins in many parts of the lung were full of white or rose-coloured friable coagula, fibrin, fat-granules, and pigment. The pericardium contained a little yellow serum; the heart was flabby. The liver presented the characters of nutmeg-liver, and was closely adherent to the diaphragm. The lower vena cava, where it was in contact with the liver, had a third of its periphery lined with a layer of matter resembling coagulated fibrin, of a dirty-white colour, dense, and finely granular; it was readily torn in attempting to remove it. This substance extended as far as the surface of the utero-ovarian vein, which was completely obliterated by a whitish hard coagulum. The spleen was doubled in size, and the kidneys were anæmic and softened.

Dr. Spaggiaria believes that the morbid process commenced in the utero-ovarian vein in consequence of the pressure of the uterus; that the thrombus extended into the cava, where it became softened; and that portions were carried into the circulation, and, being arrested in the small branches of the pulmonary artery, produced the abscesses in the lung.—*London Med. Record*, Dec. 23, 1874.

Subcutaneous Injection of Ergotin in Fibromatous and Myomatous Tumours of the Uterus.

HILDEBRANDT (*Allg. Med. Central. Zeit.*, 83, 1874), in an article on this subject, quotes the experiences of Scanzoni, Burow, Hennig, and Keating with his own, which has also been extensive. He concludes that we have the most favourable conditions for the absorption of a fibroma or myoma of the uterus under the ergotin treatment, (1) when the growth is firm and elastic; (2) when its seat is submucous; (3) when the uterine walls are healthy, contractile, not thinned by over-distension, not rendered rigid by exudations, and when no inflammatory processes are going on in the neighbourhood. He finds that the solution of ergotin is most efficient and least likely to set up inflammatory action when it is prepared according to Wernich's directions; he adds a few drops of glycerine to keep it from moulding.—*Medical Record*, Jan. 9, 1875.

On a Case of Hæmatometra in Uterus Bicornis, with Complete Absence of the Vagina; Operation; Cure.

Dr. A. BIDDER, of Mannheim, describes this case in the *Berliner Klinische Wochenschrift* of November 16, 1874.

The patient was seventeen and a half years old when seen; the family history was good, although she herself was slightly affected with rickets. At the age of sixteen and a half she began to be every four weeks attacked with pains in the lower part of the abdomen, gradually increasing in intensity. At last in

no position could she obtain relief, except when bent double. An examination of the genitals showed an entire absence of the vaginal orifice. From the orifice of the urethra to the posterior commissure was smooth, even mucous membrane with a shallow depression in the middle. With the finger introduced *per rectum*, the catheter in the bladder could be distinctly felt, only separated apparently by some loose cellular tissue. At the height of a little more than three inches from the anus an elastic body, in the site of the uterus, could be made out by conjoined examination; it was about the size of a man's fist, ovoid, elastic, and movable. No portion of the cervix could be felt. Of the diagnosis there could be no doubt; the difficulty was to open up a communication between the uterus and the closed vaginal orifice. The obliteration of the vagina was complete; was it, however, only by adhesion of the two surfaces as in union of the prepuce with the glans penis? or was it entirely absent? Cutting instruments were not applicable; blunt force alone could be used, and that, to be successful, must be in the direction of the axis of the pelvis, behind the urethral orifice.

The point of the forefinger was placed in the shallow depression; by working it backwards and forwards, and with a boring movement, it was possible gradually to separate the vaginal walls which had grown together. At places the finger slipped along easily, perhaps because the walls were here only adherent to one another.

There was slight hemorrhage. At the depth of about three and a half inches the ovoid tumour was met with, and a space about 1.2 inches in diameter and projecting about four-fifths of an inch into this artificial vagina was opened out with the finger. There was no os to be found; at the most dependent part a hole was scratched with the finger nail, and a trocar was plunged in. What came away was thick, tenacious, coffee-brown liquid. The opening was enlarged with the finger. Care was taken not to press on or irritate the uterus for fear of stimulating it to contraction. The fluid was allowed to run away of its own accord. The vagina was syringed out with warm water. She made an excellent recovery, with only slight feverish symptoms on the eighth day. On account of an offensive mattery discharge, injections were employed for a few days. Menstruation took place without harm and in a moderate quantity.

Careful examination under chloroform was made, at a later date. The uterus was large, soft, and elastic; to the left and below the fundus was a thick prolongation about an inch and a half long, and half as broad, springing from the substance of the uterus, cylindrical in shape, and, in comparison with the rest of the uterus, hard; it was probably the other horn of a uterus bicornis; the supposition of an altered Fallopian tube or a neoplasm was not permissible. *Per rectum* no cervix could be made out, but from the inferior end of the uterus a small, cord-like nodular vagina. The finger could pass only about two centimètres up the vagina before it was arrested by a knotty structure; beyond this the uterine sound could be pushed as far as the shoulder. The finger, with force, could be passed about two and a half centimètres further by tearing through the bands of connective tissue; it bled moderately. Laminaria-tents were attempted to be introduced to widen the upper part of the vagina. As far as the vagina was then dilated, an oiled tampon was inserted. On introducing the sound some weeks later, a quantity of offensive purulent fluid escaped, which for a time continued discharging. When last seen, at the end of nine months from the operation, the girl was quite well, and menstruated normally, and the vagina could now only admit the finger about half an inch; the sound, as formerly, passed readily. The uterus was as large as a goose's egg.

The author views this case as one worthy of notice, as a contribution to the causation of this affection, hæmatometra, which in this instance arose from a complete fusion and adhesion of the vagina along its whole length. Whether the projection from the side of the uterus was another horn, is not certain. In uterus bicornis (Veit, Virchow) one horn not unfrequently does not menstruate. The chief interest of this case is the successful creation of a vagina; unfortunately, the passage was not kept dilated with bougies, etc., and so soon contracted. The reason that the parts did not grow together again, arose, in the

belief of Dr. Bidder, from the original firm adhesion being only an epithelial one; probably the remains of the epithelium grew again over the injured parts, forming a complete covering, permitting, however, contraction of the nodular connective tissue. The cause of the uterus remaining so large was not apparent. The author is under the conviction that the opening into the uterus was made opposite where the os should be, otherwise he thinks it would have grown together again. Finally, one does not always succeed in making a vagina by separating the fused parts. Lately, Professor Simon has proposed in these cases to dilate the urethra, and make a large opening between the uterus and bladder.—*London Med. Record*, Dec. 9, 1874.

Normal Ovariectomy.

Dr. T. T. SABINE, Surgeon to St. Luke's Hospital, New York (*New York Med. Journ.*, Jan. 1875), operated August 8, 1874, upon an unmarried female aged 25, who at the time of her admission into the hospital was in fair general condition. "She can get about the ward on crutches, but cannot bear the weight of the body on the left limb, which is flexed and lies across the right as in morbus coxarius.

"Physical examination reveals intense vaginismus, and exquisite tenderness in the region of the left ovary. By conjoined manipulation the ovaries can be easily felt, and are of normal size. After this examination, as after every previous one, patient suffered great pain for two or three days.

"*July 4.* Patient was seized with a paroxysm of pain referred to the left ovary, so great as to cause convulsive action of all the muscles of the body, and which sol. morph. sulph. Magendie, grt. xl, hypodermically, and repeated in half an hour, failing to control, chloroform was administered in quantities sufficient to relieve the pain. This was continued for six hours, when the suffering abated. Moderate relief was obtained for twenty hours, the pain being controlled by morphia, but at the end of that time she was again seized with a paroxysm which lasted, with intermission, for three days, at times requiring the administration of chloroform in addition to large doses of morphia. Great exhaustion followed each severe paroxysm, and the patient was considerably prostrated by the prolonged attack.

"*19th.* Patient again suffered from an attack of unusual severity, lasting twelve hours, which was only relieved by chloroform; and on July 26th another attack, lasting fifteen hours, was relieved by the same means.

"Both were followed by extreme exhaustion and weakness.

"*31st.* A consultation was held, and removal of the ovary decided upon. Patient is failing in health and strength, and is very anxious for relief. General condition fair. Urine normal."

The ovary was found to be "of natural size, and on section the stroma and capsule appeared normal. The very unusual opportunity was afforded of examining a corpus luteum, the exact age of which was known, immediately after the removal of the ovary from the living body. The patient had menstruated just three weeks prior to the operation, and the corpus luteum, examined by Dr. J. C. Dalton, answered perfectly the description of the one represented in his work on 'Human Physiology,' page 566, of the fourth edition, excepting that it projected much more prominently from the surface of the ovary."

The following notes of her condition after the operation are made:—

"*Sept. 7.* General health very much improved. The left limb, which at the time of admission was semi-flexed, so that the foot could not be brought to the floor, is now perfectly straight, and easily sustains the weight of the body in walking, although it is still weak from disease."

"*29th.* Can walk easily, and without limping, for a considerable distance. Has menstruated since leaving the hospital, with entire absence of ovarian or dysmenorrhœal pain."

Medical Jurisprudence and Toxicology.

On the Physiological Test for Poisons.

MM. ALBERTONI and LUSSANA (*Annales d'Hygiène*, July, 1874) find that the extractive matters obtained from the various animal fluids and tissues produce death in animals when injected subcutaneously or into the veins. The symptoms produced by such injections are first an increase and then a diminution in the frequency of the pulse, soon a lowering of the temperature, slow respiration, diarrhœa, and certain convulsive and paralytic phenomena, most frequently paraplegia. Ordinary extract of meat, like Liebig's extract, has precisely the same effect; also the substances extracted in the ordinary way from the organs of two sisters who died under suspicious circumstances proved fatal to animals when injected subcutaneously, the symptoms which were produced being the same as those caused by the extract of meat. They conclude, therefore, that it is impossible to affirm that certain organs contain a substance foreign to the organism and capable of producing death, because the extract from those organs has been found to cause the death of an animal when injected subcutaneously.—*Boston Med. and Surg. Journ.*, Jan. 14, 1875.

Analogy between Phosphorus, Arsenic, and Antimony.

Dr. CH. ROUCHER refers (*Annales d'Hygiène*, Oct., 1874) to a case of mild arsenic poisoning reported by Dr. Gaillard which has several points of interest. Fowler's solution was prescribed for a patient, twenty-two years of age, for an obstinate eczema. Fifteen drops were ordered morning and night for fifteen days, fifteen drops three times a day for the next fifteen days, and after that twenty drops three times a day. This corresponds to about one-quarter of a grain of white arsenic for the first fifteen days, one-third of a grain for the second fifteen days, and one-half a grain daily after the first month. The result was that the first doses were tolerably well borne, there being only slight disturbance of the stomach. The forty-five drops daily caused vomiting and more intense pain in the stomach. The sixty drops daily could not be borne, and, as the skin disease was not cured, the patient gave up the treatment. A short time afterwards, however, the eczema disappeared. The arsenic caused some pain in the limbs with symptoms of paralysis. After omitting the Fowler's solution, the paraplegia increased instead of diminished. This being attributed by Dr. Gaillard (who first saw the patient five weeks after the omission of the Fowler's solution) to the continued presence of arsenic in the system, an examination of the urine was made and arsenic detected. Its elimination by the kidneys continued for six and one half weeks after discontinuing the medicine. Seven and one-half weeks after its omission, no arsenic could be detected in the urine. After this period the paralysis rapidly disappeared.

This case is remarkable, first, for the tolerance of such large doses by one unaccustomed to its use; and, secondly, for the slowness of the elimination of the poison. Different authors give the time for the elimination of arsenic as from twelve days to a month, and many consider that the opinion can be given that, if arsenic is detected in the organs, it must have been ingested within a month before death. The above case, however, shows that it may require about fifty days for its complete elimination. Whether the elimination after chronic poisoning is slower than after acute remains to be decided.

In connection with this case the author cites experiments with tartar emetic, and shows that the action upon the digestive organs, upon nutrition, and upon the nervous system is the same for both arsenic and antimony. In several cases of phosphorus poisoning reported by Andante, M. Roucher finds similar symptoms produced as in chronic arsenic and antimony poisoning, and he is led to believe that the analogy which marks the chemical properties of these three closely allied elements will be found to exist in regard to their physiological action also.—*Boston Med. and Surg. Journ.*, Jan. 14, 1875.

Hygiene.

On Anthracosis among Copper-workers.

Dr. PROUST recently brought forward this subject at the Académie de Médecine, in a treatise specially devoted to the study of this malady among moulders in copper or bronze.

The *Gazette Hebdomadaire*, in passing in review the work of previous observers of this malady, reminds us that accidents occasioned by the introduction of carbonic particles into the respiratory passages were referred to so long ago as 1813 by Pearson, in a paper read before the Royal Society of London; that in 1831 Gregory and Christison found in the lungs of a miner certain hollows or cavities, surrounded by a black substance, which they recognized to be coal. In 1837 Béhier found the same kind of lesions, proceeding from the same cause among workmen exposed to coally emanations. Later, in 1854, M. Tardieu devoted his special attention to anthracosis among workers or moulders in copper. Works upon the same subjects were published by Kiem-bault, Bouillaud, Traube, Beaugrand, and others. The *Gazette Hebdomadaire* omits to notice Dr. Headlam Greenhow's important observations on the "black-lung of miners." Under the article "Anthracosis" in the *Dictionnaire Encyclopédique des Sciences Médicales*, written by M. Dechambre, there is a complete history of this question, in which nearly all the works on this subject are summed up and criticized.

In Dr. Proust's recent treatise he proves primarily that the almost general substitution of fecula for coal-refuse will render less and less frequent this appearance of anthracosis among moulders in copper. It is, therefore, a disease which has a tendency to wear itself out, at least among artisans of that calling; but there are others, such as coal-heavers and miners, who must necessarily remain exposed to it.

As regards the manner in which the coally particles penetrate, M. Proust believes that it is effected solely by the alveoli or respiratory channels. The cells of the epithelium which line the alveoli, and the thin membrane which sustains them, are easily traversed by the particles of coal. These particles make their way into the conjunctive interalveolar tissue, where their accumulation speedily induces a conjunctive hyperplasia. The conjunctive tissue becomes softened, and cavities filled with a blackish pulp are formed in the pulmonary parenchyma. Most complete details of the progress, evolution, and symptomatology of this lesion, and the heart complaints which it engenders, will be found in the article "Anthracosis," to which we have already alluded.

At the last stage—at the time when the parenchyma thus forms for itself multifarious cavities—the disease puts on all the clinical appearances of pulmonary phthisis; at that stage only can it merit the name of carbonic or coal phthisis.

It is well known that it has been proposed to style by the name of "professional phthises" a certain number of pulmonary complaints arising from the inhalation of various dusts or powders, observed more particularly among needle-makers, millstone-makers, stonecutters, carders, etc. For this denomination of phthisis, applicable only to the last period of the disease, M. Proust proposed to substitute that of "pneumoconiosis," introduced by Zenker. The disease in question might here take the name of anthracotic pneumoconiosis among moulders.

M. Proust promises to return to this question, and to speak especially of the clinical forms which the disease may assume.—*London Med. Record*, December 9, 1874.

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(For List of Contents see last page.)

MARCH, 1875.

Anatomy and Physiology.

On the Frontal Fontanelle-Bone, Os Fonticuli Frontalis.

Out of the enormous collection, numbering about 10,000 human skulls, amassed in the comparatively short space of a quarter of a century in the Institute of Anatomy at St. Petersburg, Professor WENZEL GRUBER found forty-three to possess a "Wormian bone" lodged in the former site of the anterior or frontal fontanelle. His observations and notes are comprehended in a paper published in the *Mémoires de l'Académie des Sciences de St. Petersburg*, tome xix., entitled "Ueber den Stirnfontanellknochen (os fonticuli frontalis) bei dem Menschen und bei den Säugethieren," and illustrated by two plates of fifty-seven figures. Of the forty-three skulls the fontanelle-bone was single in forty, double in one, and triple in a hydrocephalic boy, in whom there were about thirty "Wormian" bones besides, lodged in the lambdoidal suture. It follows that very rarely—viz., only once in every 250 skulls—is a specimen met with having a fontanelle-bone. The bone itself is generally of an irregularly rhomboidal shape, and is imbedded between the frontal and two parietal bones, in such wise that its anterior angle or margin enters into the formation of a part of the coronal suture. Complete synostosis of the bone with its three neighbours occurred in no case externally, while internally it was seen in twelve out of the forty having but a single fontanelle-bone—and out of these there was not a trace of a suture in seven—and also in the skull with a double Wormian bone in the site of the anterior fontanelle. In anatomical literature, about from eighty to ninety cases are registered, in which the bone in question was present, and only one case—quoted by Meckel (*Handbuch der pathologischen Anatomie*, Band i., Leipzig, 1812)—in which it was double. Very little is deducible from observations made upon lower mammals (including from thirty to thirty-two species of twenty-five to twenty-seven genera out of nine orders observed), except that, as in well-formed human skulls, so in well-developed skulls of other mammalia, the triple as well as the double and single varieties of the bone may be present; and, as in man, the single variety the oftenest. It must be noted that in one and the same species of mammals the multiple variety may be oftener present than in man. To judge from Professor Gruber's notes, the abnormal ossicle seems to be more frequent among the Edentata—occurring in both kinds of sloths—than in the rest of the mammalia. —*London Med. Record*, Jan. 6, 1875.

The Histology of the Laryngeal Mucous Membrane.

Since the observations of Klein and Burdon-Sanderson on the relations between the occurrence of tubercle and the existence of adenoid tissue in various organs in the normal condition, the discovery of the latter in healthy organs has assumed increased importance. It has been known for some time that growths of adenoid tissue exist in the mucous membrane of the larynx of some animals in the form of closed follicles, but until lately it was believed that it did not occur in the same situation in man. Thus Luschka states that

the human laryngeal mucous membrane does not show normal adenoid tissue with a reticulum, but only exceptionally does one find a growth much resembling it in the solitary follicles on the edge of the ary-epiglottic folds, and of the epiglottis itself, occurring either as a diffuse infiltration, or in the form of projecting nodules. Verson also says that the mucous folds over the false vocal cords may be thickly studded with lymph-corpuseles. Dr. HEITLER has recently studied this subject with the object of ascertaining whether adenoid tissue exists in the healthy human larynx, and has published the results of his researches in *Stricker's Medizinische Jahrbucher*, vols. iii. and iv., 1874. He carefully rejected all cases in which there was any suspicion of catarrh, and in all the healthy cases examined, he found the adenoid tissue to be of constant occurrence. The situations in which he found it most abundant were the ary-epiglottic folds, particularly where the squamous epithelium passes into columnar; but it was also found constantly in the mucous membrane covering the arytenoid cartilages, especially their upper part, and over the cartilages of Santorini, diminishing lower down, and also towards the junction of the two halves of the thyroid cartilage. He also found it in the mucous membrane covering the first part of the ventricle of Morgagni, and in the folds around the sacculus laryngis. Heitler mentions also that he has constantly observed in the healthy larynx a diffuse infiltration of the submucous tissue with small elements of cellular character, which were first observed by Luschka, and which Rheiner regards as the sign of a catarrhal condition. This infiltration varies greatly in its amount and situation. Heitler considers that the characteristic peculiarities of the laryngeal mucous membrane are the existence of this small-celled infiltration, and of masses of adenoid tissue, and also the great number of large glands; and he believes that these peculiarities account for the frequent occurrence of ulcerations, which are usually of secondary character.—*Lancet*, Jan. 6, 1875.

Double Arch of Aorta inclosing Trachea and Œsophagus.

Dr. CURNOW presented to the Pathological Society of London (*British Med. Journ.*, Dec. 26, 1874) the following report of this rare anomaly, which occurred in a female, aged 87. The vascular circle was formed in front by a left brachiocephalic trunk, the first part of the left subclavian, and a communicating branch to the posterior aortic arch, joining it at about three inches from its summit; behind by a posterior and larger arch, from which the right carotid and then the right subclavian took origin. The ductus arteriosus joined the right extremity of the communicating vessel, and was impervious. During fetal life, the blood-current must have passed from the arterial duct through the communicating vessel into the descending aorta, whilst after obliteration of the duct a volume of blood, equal to that which was carried into the distal portion of the left subclavian artery, still passed from the first part of the subclavian through the same communication into the aorta. There was no transposition of the viscera. Dr. Curnow looked on the specimen as exemplifying a persistently pervious condition of both fourth vascular embryonic arches; the right being posterior to the trachea and œsophagus, and forming the main aortic arch; the left being anterior, and forming the left brachiocephalic trunk of the first part of the left subclavian; whilst the left aortic root also persisted as the patent communicating vessel. The analogy of this arrangement to the ordinary reptilian type was pointed out. The practical interest of the specimen was in the absence of any dyspnoea or dysphagia in the case, which went strongly to disprove the possible existence of any difficulty in swallowing being ever due to an abnormal deviation of the larger vessels—the so-called “*dysphagia lusoria*.” There was no discussion on this very rare specimen, which is worthy of the attention of those anatomists who are interested in embryonic evolution.

The Localization of the Functions of the Brain.

Since the publication of Ferrier's researches on the existence of centres for voluntary movements in the cortical gray matter of the brain, and his repetition and extension of Fritsch and Hitzig's experiments, numerous observers have undertaken fresh experiments, with the view of correcting or extending the conclusions at which he arrived, and of criticizing his method of observation. So far as the main outlines of their results are concerned, if we except minor points of difference between Hitzig and Ferrier, as to the exact localization of certain centres, the majority of observers are agreed that the application of electrodes over certain well-defined and limited portions of the convolutions gives rise to certain definite movements of the limbs or face, which are usually of a combined nature; and that there are homologous centres in similar portions of the brain of different animals. But with regard to the interpretation of these results there is still much diversity of opinion: some observers agreeing with Ferrier that the movements are produced by excitation of the gray matter itself; whilst others, as Dupuy, Schiff, Brown-Séquard, and Burdon-Sanderson, consider that they are due to conduction of the galvanic current to the ganglia of the base of the brain, or to the pons and medulla. But it is due to Ferrier to remark that he does not deny that the current may be substituted for the normal nervous discharge of the convolitional gray matter, and conducted by the same white fasciculi to the basal ganglia; nor does it at all disprove the existence of such higher centres for the origination of movements through the influence of the will, that after removal of the cortical gray matter, as in Sanderson's experiments, the same movements result on electric stimulation.

Of the more recent observers on the subject, there are none whose experiments have a greater value than those of MM. CARVILLE and DURET, both on account of their well-known ability and the amount of attention they have devoted to the subject. In two former communications to the Société de Biologie they criticized in detail the possible errors arising from diffusion of the currents employed; and in a more recent note, presented on October 10th, after answering certain objections to their former conclusions, they give the results of a fresh series of experiments, undertaken with the view of deciding whether centres for voluntary movements really exist in the gray matter of the convolutions, and also of determining more precisely the relation of the latter with the ganglia of the base of the brain.

With regard to the diffusion of currents, they have found that whilst there is superficial diffusion, as shown by Dupuy, and more recently by Gudden, there occurs also diffusion in the deeper parts, but that the currents seem to follow especially certain fasciculi of the corona radiata. Moreover, the careful removal of the cortical gray matter of one of Ferrier's centres, which Burdon-Sanderson has designated "active spots," or the section of the connecting fibres at various distances from the surface, did not prevent the occurrence of equally strong and localized movements on electrical excitation. It was necessary, however, to increase slightly the strength of the current employed: and the increase required was greater the deeper the section from the surface. They account for this necessity by the increased diffusion due to the exudation of blood on the cut surface; and to prove that this was the cause, they cauterized the surface of the wound made by removal of part of the convolutions, and found that no increase in the strength of the current was then needed.

These facts, however, whilst showing that the excitation of the cortical gray matter is not necessary for the production of localized movements, leave untouched the question as to whether the centres for voluntary movements really exist. That certain bundles of white fibres pass to particular points of the surface of the convolutions, and are there in organic connection with certain groups of nerve-cells, seems to be placed beyond doubt by Ferrier's experiments; and the fact is acknowledged by MM. Carville and Duret. In order to elucidate the question, these observers refer to the occurrence of movements in the opposite limb when the central end of the cut sciatic nerve is stimulated by electricity. Here, they say, the electric stimulus no doubt acts through the

medium of the gray centres in the spinal cord, substituting itself for the normal nervous stimulus; yet experiment seems to show that the gray matter of the cord is not *directly* excitable by electricity. Hence they argue that the nerve cell does not react except when excited through its corresponding nerve-tubule. So that the cells of the cortical gray matter may form only reflex or perceptible centres. In order to determine this question, they resorted to the old method of removing the portions of gray matter considered to be centres, and allowing the animals to live. In one of these experiments they carefully removed the centre for the extension of the fore and hind paws of a cat; and on electrization they obtained a repetition of the same movements as before. On the evening of the same day the animal had some difficulty in standing, and rested on the dorsum of the left forepaw and on the back of the claws of the hindpaw. In walking, the fore limb was thrown forwards, and allowed to fall in such a manner as partly to counteract the loss of power of the extensors, whilst the hind limb was dragged on the ground in a slightly flexed position. The animal often fell on to the left side. On the second day after the operation the loss of power of the extensors was much less marked; and by the fifth day they appeared to have recovered completely. A similar experiment on a dog led to a like result. Hence the authors conclude that the paralysis induced by removal of the so-called centres is only transitory. But, as Ferrier has shown, the paralysis differs in degree according as the movements are independent or associated with those of the opposite side; and he has observed that a mere degree of weakness may be produced by destruction of the centres for movements of the paw in dogs.

M.M. Carville and Duret then examined, by means of sections made at various points, the course by which the impressions are conveyed to the deeper ganglia. They found that whilst section of the expansion of one cerebral peduncle at the level of or below the corpus striatum produced complete and permanent motor paralysis of the opposite limbs, and entirely prevented the occurrence of movements of the paws on excitation of the cortical centres, the almost complete removal of the intraventricular nucleus of the corpus striatum produced no effect on the excitability or the motor power. Hence they conclude that the currents pass downwards in the expansion of the peduncle, and act on the nuclei of the pons and medulla.

Lastly, they inquire what is the explanation of the speedy cure when only the cortical gray centre is removed. Referring to the theory of Brown-Séquard, which has been adopted by Ferrier, that the brain is a double organ, and that the uninjured hemisphere takes on the functions of the injured, they inquired by what system of fibres the supplementary action is effected. Three hypotheses present themselves: firstly, that fibres from the left hemisphere (if we suppose the right injured) pass across in the corpus callosum, and are either connected with the corpus striatum, or pass downwards in the right cerebral peduncle; or, secondly, that the fibres from the left hemisphere descend in the peduncle of the same side, and after their decussation act upon the nuclei in the right half of the medulla oblongata, and set up a corresponding action by lateral excitation in the nuclei in the left half; or, lastly, that the intraventricular nucleus of the injured side may act as a supplementary centre. The first hypothesis was negatived by the fact that complete section of the corpus callosum in a dog from which a cortical centre had been removed did not reproduce the paralysis after its cure, nor occasion any difficulty in walking. The second hypothesis seems improbable, from the fact that in cases of disease of the peduncular expansion in the corpus striatum the paralysis is permanent, and no supplementary action occurs. Hence they conclude that no such supplementary action of the sound hemisphere exists. The third hypothesis—namely, that the nucleus caudatus acts as a second centre for voluntary movements—seems to them to agree with the results of experience and of clinical observation; but, as they promise to communicate the results of further experiments on this point, it is unnecessary to enter upon it here. It is to be regretted that they should have limited their experiments to dogs and cats, but it is at the same time satisfactory to find that their main results confirm so strikingly those previously arrived at by Hitzig and Ferrier.—*Lancet*, Jan. 16, 1875.

On Digestive Fluids in the Fœtus.

A. MORIGGIA (*Revista Clinica*, 1873; abstract in *Centralblatt für die Medicinischen Wissenschaften*, No. 22, 1874) has investigated more than a hundred embryos (chiefly of the cow), from the most different periods of development, and has found that the digestive power of the mucous membrane of the stomach is present, and can be demonstrated, not only in the sixth and fifth, but also in the fourth and third months of pregnancy. The salivary glands, on the contrary, have no digestive properties either in the fœtus or in the newly born. (Compare Schiffer and Korowin, *Journal of Anat. and Phys.*, vol. viii.) The bile-forming function of the liver begins very early. When the liver begins to produce glycogen could not be accurately ascertained; for, even at the earliest period of development of the liver, almost all the embryonal tissues contain glycogen or glycose. Embryos which have been preserved for a long time at the temperature of the body, in Moleschott's acetic acid mixture, were by the action of their own gastric juice completely digested, without a trace of them being left. To self-digestion the author seeks to ascribe the disappearance of dead embryos in closed cysts. The parts of such embryos which generally remain to the last are either those which are widely removed from the stomach (*e. g.* head), or those which afford resistance to the digestive power of the gastric juice (*e. g.* hair, bones). From the constant presence of amniotic fluid in the stomach, and of amniotic epithelium in the meconium of the embryo of the cow, it is to be concluded that a constant swallowing of the amniotic fluid takes place in the embryo.—*London Med. Record*, Jan. 6, 1875.

Materia Medica and Therapeutics.

On a New Remedy; the Yerba del Perro.

At the meeting of the Biological Society of Paris on December 5, M. RABUTEAU presented a new Mexican plant of a poisonous character, the *Yerba del Perro*, which had been sent to him by M. Victor Salet. He had tried its therapeutic properties on dogs, and found that they raced about, were much disturbed, had convulsions, and died in the short space of ten minutes.

The extract is very deliquescent. Eighty centigrammes (twelve grains) injected into the veins of a medium-sized dog produced the following effects. There was nothing remarkable until an hour had passed; at the end of that time the dog barked a great deal, foamed very much at the mouth, and fell down in convulsions. These symptoms lasted during half an hour, when the animal died. This new plant produces symptoms analogous to strychnia, but the convulsions produced are of a different character. In the dog which was first experimented on, the pupils were enormously dilated; the brain was congested, but not the spinal marrow; the lungs were in a normal state. This *Yerba del Perro* (dog-grass) belongs to the family of Compositæ; it has a woolly stem, and seems to be highly poisonous.—*London Med. Record*, Dec. 23, 1874.

On Jaborandi.

DR. SYDNEY RINGER and Mr. ALFRED GOULD contribute to the *Practitioner* (Dec. 1874) the notes of four experiments with this drug on three healthy lads, of ages varying between 8 and 12, and with the following results: In three out of the four experiments, jaborandi caused copious perspiration. In one lad the skin remained quite dry, affording an interesting evidence of the effect of idiosyncrasy; for on the same day, in the same ward, the same dose was administered to both lads, placed under the same conditions, yet, whilst one sweated profusely, the skin of the other remained dry.

Jaborandi acts as a sialogogue, causing in some a very great flow of the salivary secretion; but its sialogogie is less uniform than its diaphoretic action.

In one case only did it increase the bronchial secretion.

Jaborandi considerably accelerates the heart's action and renders the arterial impulse more visible; but whether this is due to increased force of the heart's action, or to relaxation of the arterial system, our observations were not exact enough to determine.

In each observation the temperature fell considerably. Now this fall is not due to the natural diurnal changes, for by other experiments we have ascertained that between 9 A. M. and 4 P. M. the temperature remains remarkably constant; and that when it does vary between these hours it generally rises. The action of jaborandi on the skin affords the most plausible explanation of the fall of temperature. We have seen that it causes flushing in the face, and probably therefore increases the flow of blood to the skin generally, and induces profuse general perspiration. These two circumstances must cause loss of heat, by increased radiation and evaporation. Against this view, however, it must be stated that in the case of the boy whose skin remained dry, a decided fall of temperature occurred. It may be said that in this case there was increased insensible perspiration, which somewhat reduced the temperature; that, in fact, jaborandi did affect the skin, but to an extent insufficient to render the perspiration visible. Moreover, the fall of temperature was less and lasted a much shorter time than in the cases where the perspiration was copious. In the lad with the dry skin, as there was no flushing of the face, there was probably less determination of blood to the skin than in the other lads.

In all the three lads the drug excited vomiting, but with scarcely any nausea. It produced drowsiness, which supervened soon after the flush disappeared from the face, when the skin became very pale, and a little prostration set in. The perspiration continued profuse long after the flush had left the face and ears.

One unexpected result was obtained. In the lad who was subjected to two experiments, the temperature was taken in both axilla and rectum; and the axillary temperature during part of the observations was higher than the rectal; and, though frequently tested, on no occasion did the rectal temperature exceed the axillary. The thermometers were compared and found to be exactly alike. This fact is certainly singular. On former occasions one of us made numerous observations regarding the rectal and axillary temperature, and found that in many people, if proper care was taken, the axillary temperature was as high as the rectal. This statement is opposed to Dr. Parker's observations. It would appear, however, that in this respect there are individual differences. On no occasion was the temperature depressed below the limits of health.

It has been asserted on high botanical authority that jaborandi is composed of the leaves and small stems of a rutaceous plant, the *Pilocarpus pinnatifolius*. Mr. Martindale obtained a fresh specimen of this plant from Kew Gardens, dried the leaves, and we administered 30 grains, as an infusion, to a lad about twelve years old; but the drug produced no effect. It may be that when grown in this country the plant fails to develop its active medicinal properties. Moreover, the *Pilocarpus pinnatifolius*, when dried and powdered, did not possess an odour like that of jaborandi. Mr. Martindale, so well and justly known as a pharmaceutical authority, and who has published a paper on this subject in the *Pharmaceutical Journal*, considers that the plants are not identical.

On the Physiological Action of Cantharides.

Dr. CANTIERI, Clinical Assistant and Lecturer on Special Pathology in the University of Siena, has published in *Lo Sperimentale* for July, August, September, and October, an elaborate article, embodying the results of numerous experiments on the physiological action of cantharides. In the experiments he used various preparations, viz., tincture of cantharides, blistering plaster, and cantharidine. These were used sometimes in poisonous, sometimes in

medicinal doses; in some cases they were brought into immediate contact with the blood, and in others with the tissues; and the effects were thus sometimes directly and sometimes indirectly produced. The experiments, which were carried out with the able assistance of Dr. Pico Cantucci, were performed on rabbits, dogs, and frogs; and a number of interesting details are given with regard to the effect of experiments of the following kinds:—

Application of cantharides plaster to the axilla of rabbits, the skin having been removed;

Injection of tincture of cantharides into the bloodvessels of rabbits and dogs;

Subcutaneous injection of tincture of cantharides in frogs and in rabbits;

Subcutaneous application of cantharidine in rabbits and frogs;

Application of blisters to the belly of rabbits;

Internal administration of cantharidine and tincture of cantharides to frogs;

Injection of tincture of cantharides into the hearts of rabbits.

Dr. Cantieri gives each form of experiment in detail, and describes and comments on the results obtained; we can, however, only give his general conclusions, which are as follows:—

1. Cantharides, when introduced into the animal organism, produces changes in the mass of the blood; it destroys and corrugates the red corpuscles when brought into direct contact with them, but only corrugates them when it reaches them by absorption.

2. It diminishes the contractile force of the heart and bloodvessels, and thus reduces arterial tension; it increases the frequency and the rapidity of the beats of the heart, increases the temperature of the body, and leads to wasting and general debility—all phenomena indicating the existence of a true and special fever.

3. Cantharides induces hyperæmia and stasis in various organs; and, if applied in a large dose, true inflammation. In the course of his experiments, Dr. Cantieri met with hyperæmia of the cerebrum and of the spinal cord; in the former, softening was slight; in the latter, it reached an advanced stage, being greater in the dorsal and lumbar enlargements, especially the latter. Hence arose paralysis of the posterior limbs in dogs, in rabbits, and in frogs; and in the last-named animals, reflex power was also lost.

4. Hyperæmia of the membranes of the nervous centres, produced by cantharides, is always well marked at the base of the skull in the situation of the medulla oblongata, whence probably arise, in rabbits and in dogs, great frequency of respiration, and increased rapidity of circulation with occasional intermittence.

5. Cantharides always induces hyperæmia, or even true inflammation of the uropoietic and genital apparatus, giving rise to desquamation or parenchymatous nephritis, sometimes with albumen in the urine. It stimulates the sexual orgasm, and may produce abortion.

6. Cantharides administered internally produces, besides the morbid conditions already mentioned, a true gastro-enteritis, with extreme redness and ulceration of the mucous membrane of the stomach, and yellow mucous diarrhœal discharges. Occasionally, even when injected into the veins, if it do not produce ulceration, it occasions hyperæmia of the gastro-intestinal mucous membrane and frequent diarrhœa in dogs, frogs, and rabbits.

Dr. Cantieri then proceeds to comment on the medicinal application of cantharides as a revulsive and rubefacient. We will give his views on this subject in a succeeding number.

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Action of Emetics on Striated Muscles.

Dr. HARNACK (*Archiv für Experimentelle Pathologie und Pharmakologie*, Bd. iii. p. 44) has observed the curious fact that all the emetics with which we are acquainted have the power of paralyzing voluntary muscular fibre, though it is not certain that all muscular poisons are also emetic. Tartar emetic and salts of copper and zinc paralyze the heart and voluntary muscles, both in frogs and mammals. Salts of mercury also paralyze the muscles; salts

of lead only do so when enormous doses are given; while salts of manganese and tin do not paralyze them at all, though manganese paralyzes the nerves. The emetics of vegetable origin, emetia, apomorphia, cyclamus, asclepia, sanguinaria, delphinia, veratria, digitalin, asarin, and colchicin all paralyze striated muscles. The author attributes the muscular weakness produced by emetics, in part, at least, to their action on the muscles themselves. His experiments seem to show that salts of copper produce vomiting by their local action on the stomach itself, and not on the nervous centres; for the dose required is smaller when it is introduced into the stomach than when it is injected into the blood. The paralyzing action of emetics affords an explanation of the fact that large doses of emetics, especially when they are injected into the blood, do not cause vomiting. The muscles are too much weakened by the drug to be capable of the necessary exertion.—*Practitioner*, Dec. 1874.

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On the Action of Nitrite of Amyl on the Blood-Corpuscles, and on the Temperature of the Body during Inhalation of this Substance.

No. 43 of the *Berliner Klinische Wochenschrift* commences with an article by Dr. AUG. LADENDORF, writing from the Sachsenberg Lunatic Asylum, where his observations, embracing more than forty cases, were made, partly upon sane persons, and partly on those recovering from different psychoses. The time selected was generally from 3 to 5 P. M., or after 8 P. M., thus avoiding times when a normal rise of temperature might be expected. The thermometer was placed in the mouth, between the cheek and the superior maxilla—a space almost shut off by the tongue from the nasal respiratory tract. The readings were made by the help of a lens magnifying six times, so that by using a thermometer divided into tenths it was possible to recognize, without much chance of error, $\frac{1}{100}$ th of a degree Centigrade, equal to $\frac{1}{32}$ th of a degree Fahrenheit nearly. The general result is, that the temperature always rises after the inhalation. Many circumstances affect the amount of this rise—such as the quantity of vapour inhaled, the surrounding atmosphere, the contraction of blood-vessels, individual peculiarities, etc.; so that two persons with the same initial temperature may show differences of 0.53° Cent., equal to 0.95° Fahr. It is, however, interesting that this rise can generally be demonstrated for from one to two hours, for this explains the beneficial and continued effects of the remedy in disease. A table of thirty-six cases is given, with the temperatures observed, the differences, their maxima, and remarks. The smallest maximal elevation of temperature was 0.1° Cent., equal to 0.2° Fahr. nearly (in three cases); the highest maximal rise was 1.88° Cent., equal to 3.38° Fahr. (one case); the mean rise was 0.39° Cent., equal to 0.7° Fahr. (thirty-six cases); or, in other words, the temperature rises rather more than half a degree Fahrenheit after the inhalation of nitrite of amyl. This elevation is very evident in the course of the second minute of inhalation. The purer the preparation inhaled, the more evident the effect. The effect on the pupils was not very uniform. In all the cases when simultaneous observations were made, the axillary temperature rose correspondingly. Horatio Wood (*American Journal of the Medical Sciences*, cxxiii.) and Pick (*Ueber das Amylnitrit und seine therapeutische Anwendung*, Versuch 13) observed a fall of temperature in animals; but perhaps this resulted from the mode of experimenting. Höstermann's account of the pulse (*Wiener Med. Wochenschrift*, 1872, Nos. 46, 47, 48) is confirmed by these experiments. These effects, probably, have a common cause—not mere dilatation of the vessels. Ladendorf and Dr. O. J. B. Wolff investigated the action of nitrite of amyl on blood by microscopic examination. A drop of freshly drawn blood was placed on a slide under the objective, and a little spill of wood moistened with amyl nitrite approximated. When the spill was 1.5 to 2 millimetres (equal to $\frac{1}{16}$ to $\frac{1}{13}$ of an inch nearly) distant from the blood-drop, there immediately occurred, independently of the movements in the blood-fluid, a violent agitation of the blood-corpuscles in the neighbourhood of the spill: moving rapidly away from it, and returning, rather less quickly, to their old place, in a curved line, and then madly hastening (*sic*) to

begin the same game again. Simultaneous experiments with indifferent bodies gave only the ordinary physical movements. The direct contact of the amyl nitrite is said to have produced solution of corpuscles, with formation of lake-like pigment (colour of winter-cherry). The vapour first made the corpuscles pale, then dissolved them. Ladendorf did not employ a moist chamber; but he ascribes the whole of the effects of amyl nitrite to this action on the blood-corpuscles—causing a backward pressure on the pulmonary arterial system first, and then on the systemic—finally inducing venous congestion as a natural consequence. He recommends the inhalation of amyl nitrite for anæmic headaches and epileptiform attacks occurring with subnormal temperatures, especially those of the head; in one such case the fits were lessened by two-thirds. He confirms Pick's observation (also made by others) as to objects appearing yellow after the inhalation; and advises the lips, nostrils, etc. to be guarded from direct contact, as vesication is apt to arise if they are not so protected.—[Dr. W. BATHURST WOODMAN thinks this experiment on the blood-corpuscles extremely interesting, but by no means conclusive. Many other volatile bodies produce similar effects under the like circumstances; and to ascribe all the phenomena seen after inhalation of amyl nitrite to a similar action within the vessels, on the faith of one experiment crudely made, is to generalize too hastily.]—*London Med. Record*, Jan. 13, 1873.

On the Therapeutic Uses of Propylamine and its Salts in various Diseases.

Dr. PHILIPPO CERASI, in a work recently published by him, affirms that this drug is not poisonous when it is given in suitable doses (from nine to forty-five grains *per diem*). He fortifies his opinions by the experiments of M. Raynal and Dr. Dujardin-Beaumetz, and adds that in his practice he has always found a difference of action between the chlorhydrate of trimethylamine and the chlorhydrate of amylamine. The former rather possesses a sedative action on the nervous system, and the second diminishes the temperature more rapidly by regulating the circulation. He also observes that all the salts of propylamine have a more or less rapid and marked action on the nervous and cardiovascular system. He has successfully employed propylamine and its derivatives in fourteen cases of acute rheumatism. In three cases the patients showed well-marked cardiac symptoms, intense dyspnoea, very painful precordial pain, and small pulse; all these morbid phenomena gave way rapidly to the action of the drug. Dr. Cerasi mentions that in one case where the pains in the joints persisted, he used propylamine as an external application with much success. He had the painful joints rubbed with a liniment composed of one part of propylamine in three parts of glycerine, over which a layer of wadding was laid. This is a fact of some importance.

Dr. Cerasi having made up his mind from these experiments that this drug has a salutary action on rheumatism, by the depressant power it exercises on the cardiac activity and arterial dilatation, and by its narcotic powers, in order to determine if these therapeutic qualities were really present, he tried analogous experiments in other diseases, and he has begun to use it in affections in which it is necessary to moderate and regulate the circulation of the blood. He prescribed chlorhydrate of trimethylamine for four patients suffering from imperfect cardiac innervation, and it succeeded in calming the heart's action with sufficient quickness. He also had reason to be satisfied with its use in two cases of hypertrophy and one of cardiac dilatation. In a case of acute pericarditis, this drug diminished the pain and lessened the force of the pulsations; whilst in two cases of catarrhal pneumonia, and in one of amygdalitis accompanied by fever, propylamine had advantageous effects. Dr. Cerasi thinks that if ulterior observations, taken on a large scale, should serve to confirm the fact that this agent, which moderates the excess of caloric, can arrest the morbid processes in which profound organic oxidation is the great cause of the regressive organic metamorphoses, the practitioner would possess a precious means of gaining time and combating disease with greater certainty.

Pursuing his researches, Dr. Cerasi made experiments with propylamine, administered in cases of infectious disease. In two cases of typhoid fever, and in one case of typhus, he found the temperature lowered by the use of this medicine. In two cases of pyæmia, the propylamine lowered the temperature progressively; but in one of them the temperature, having fallen to 37° , suddenly rose to 40° , and the patient died. He obtained a notable lowering of the temperature in two cases of scarlatina, and in one of malignant smallpox during the suppurative stage. He made use of it in a case of acute alcoholism, accompanied by a very high temperature, which is a serious symptom; the first day it was 38.2° Cent. (100.76° Fahr.), the second 39.5° Cent. (102° Fahr.), the third day over 40° Cent. (104° Fahr.). It was then that chlorhydrate of amylamine was administered, and at the end of two days the temperature had fallen two degrees. The same plan of treatment was persevered in, and on the fifth day the temperature fell to 38° , and on the ninth day it was at 37.2° .

From these results, Dr. Cerasi concludes that propylamine and its derivatives exercise a depressing action on the cardio-vascular circulation, and that this action appeared to him to reside in a certain elective action on the heart and the tonicity of the arterial vessels. It also diminishes the excess of heat produced by certain morbid processes, especially in those caused by the presence of ferments. It brings the peripheric circulation into harmony with the central circulation, especially when the defective distribution of the blood is caused by disturbed innervation. Dr. Cerasi winds up by requesting medical practitioners to verify whether propylamine possesses the properties which he attributes to it.—*Lond. Med. Record*, Jan. 13, 1875.

Intravenous Injection of Chloral for producing Anæsthesia.

At a late meeting of the Paris Academy of Sciences, M. ORÉ forwarded particulars of two fresh cases of anæsthesia, produced by the intravenous injection of chloral. In one case the object proposed was to scoop out the tibia on account of caries of the bone, the other was for the operation of ovariectomy. Anæsthesia in both cases was complete, and was neither accompanied nor followed by any accident which could be attributed to the chloral. M. Oré took the opportunity to point out the means of neutralizing the possible acidity of the chloral, a circumstance which might possibly bring on coagulation of the blood in the veins. For this purpose it is sufficient to dissolve one gramme of carbonate of soda in ten grammes of distilled water, and to add two or three drops of this solution to a solution of one gramme of chloral in four of water.—*London Med. Record*, Jan. 6, 1875.

Death after Intra-venous Injection of Chloral.

The success which has attended a small series of some twenty cases of intravenous injection of chloral seems to have rendered some practitioners overbold; and the worst is that they do not always perceive the cause of fatal results when these have been produced. In a note to Prof. Oré, of Bordeaux, the originator of this practice, Dr. LANDE relates a case of ovariectomy in which sleep was induced in the space of thirteen minutes, after twenty-five grammes of an aqueous solution of chloral, containing five grammes of chloral, had been injected. The insensibility produced was absolute, and the operation, owing to adhesions which had to be ruptured with the hand, lasted about half an hour. The patient soon began to sink, and she died in little more than an hour after the operation had been commenced. There was a moderate amount of hemorrhage, which, in the anæmic condition of the patient, the reporter considers sufficient to account for death. Such a conclusion, however, M. JEANNEL observes, reporting on the case in the *Union Médicale*, will certainly be disputed, since it is far more probable that death arose from the influence of the anæsthetic directly introduced into the circulation, the effects of which could be neither modified nor arrested. "The whole therapeutical history of chloral," he adds, "should teach us to employ it with the

greatest caution. If intra-venous injections of this redoubtable agent can be justified up to a certain point for the treatment of diseases against which medicine up to the present time remains unarmed, such as tetanus and hydrophobia, we refuse absolutely to admit that these injections should replace inhalations of chloroform, the effects of which can be prudently controlled, increased, or interrupted, according to the indications furnished by the great organic functions."—*Med. Times and Gaz.*, Jan. 16, 1875.

Medicine.

Medical Ophthalmoscopy.

M. BOUCHUT, who was one of the earliest to point out (having first published a paper on the subject in the *Gazette des Hôpitaux* for 1862) the great importance in practical medicine of the indications derived from the ophthalmoscope, gives, in the *Gazette des Hôpitaux* of January 5 and 7, what he terms a *revue cérébroscopique* for 1874. In this he furnishes brief analyses of the various cases in which he employed this instrument at the Hôpital des Enfants Malades during that year, and which were very numerous and varied in their nature. He terminates his retrospect with these general observations:—

"It is thus seen that the number of diseases for the diagnosis of which the ophthalmoscope has been useful is very considerable. In some of these it has by itself alone made the diagnosis, so that it is an instrument as indispensable to the physician as to the oculist.

"All diseases of the brain and spinal cord, and all the nervous affections termed neuroses, because they are regarded rather as functional than organic, ought to be investigated by its aid. When by its assistance the physician discovers a lesion of the optic nerve, of the retina, or of the choroid, in a case presenting convulsive, choreic, paralytic, or spasmodic nervous phenomena, he may be certain that a cerebro-spinal lesion is the starting-point of these symptoms. Every symptom regarded as nervous, which is accompanied by a lesion of the fundus of the eye, is caused by an organic alteration of the brain, the cord, or the membranes. Thus is it with chorea, considered by many physicians as a simple neurosis; and yet this should, in consequence of the congestive optic neuritis found in its subjects, be regarded as a congestive affection of the anterior spinal cords. So also epilepsy, in a certain number of cases, is the result of cerebro-spinal lesions which at the same time induce changes in the optic nerve or retina. Also hysterical paraplegia and paralysis produce no neuro-retinian changes, while symptomatic paraplegia and spinal ataxia produce either simple hyperæmia of the optic nerve or hyperæmia and atrophy. So leucæmic, tubercular, glycosuric, or albuminuric diatheses are often revealed by optic neuritis, the ophthalmoscopic diagnosis in some of these cases being most striking. It is especially in patients attacked by general acute tuberculosis, accompanied by typhoid symptoms, and which are mistaken for typhoid fever, that cerebroscopy becomes truly remarkable. In an infant in whom the disease had all the appearance of typhus, the ophthalmoscope, by revealing tubercles of the choroid with neuro-retinitis, determined that there were tubercles in the brain, and consequently productions of the same character all over the body—which the autopsy demonstrated to be the fact.

"Can any diagnosis be more exact than this? You see, in the living man, tubercles of an organ which permit you to conclude that they will also be found elsewhere. You see a nerve either healthy or diseased, and this indicates whether its roots are sound or diseased; and you have almost laid bare arteries and nerves which are so afferent to the brain that changes in them, studied with care, represent similar changes in a portion of the nervous cen-

tres. It seems almost marvellous; and I do not think that since auscultation there has been anything discovered so useful to semeiology. Henceforth, the physician may divine and often affirm lesions of the brain, cord, or meninges, the diagnosis of which before was impossible or only probable. Thus: 1. From hyperæmia and hyperæmic tumefaction of the optic nerve there results the diagnosis of mechanical or inflammatory hyperæmia of the brain in meningitis, in cerebral hemorrhage, effusions into the brain, and in some cases the diagnosis of ataxic or other spinal diseases. 2. By papillary œdema joined to hyperæmia I recognize œdema of the meninges; or an obstructed cerebral circulation through meningitis, cerebral tumours, ventricular hydrocephalus, cerebral hemorrhage, meningeal effusions, thrombosis of the sinus, etc. 3. By neuro-retinian and choroidean anæmia I recognize cerebral hemorrhage of *ramollissement*, and if the anæmia is absolute it is fatal. Empty arteries and veins of the eye, and an exsanguineous condition of the choroidean network, indicate arrest of cerebral and cardiac circulation. 4. By exudative and fatty optic neuro-retinitis, I recognize chronic meningo-cephalitis; the encephalitis of cerebral tumours, and the changes in the nervous substance which accompany these tumours. 5. By retinian varices and thromboses I distinguish meningeal thromboses or those of the sinuses. 6. By the aneurisms of the retinian arteries we may recognize the miliary aneurisms of the brain. 7. By simple retinian hemorrhages we recognize a compression of the brain by hemorrhagic or other effusions; but if these retinian hemorrhages are accompanied by retinian steatosis, there is also cerebral steatosis, and this is the case in chronic albuminuria, leucocythæmia, and glycosuria. 8. By atrophy of the optic nerve, tumours of the brain and cerebral or spinal sclerosis are discovered. 9. Finally, we never meet with tubercular granulations in the choroid without the existence of similar ones in the lungs or other organs."

M. Bouchut announces that he is about shortly to publish a large atlas of medical ophthalmoscopy.—*Med. Times and Gaz.*, Jan. 23, 1875.

Paralytic Tremor as a Symptom.

At a meeting of the Southeastern Branch of the British Medical Association, Dr. Moxon (*British Med. Journ.*, Jan. 9, 1875) read a paper on this subject. He described tremor or trembling as the opposite of spasm. In detailing the different forms, he mentioned one which appeared to be due to involuntary muscular discharges without nervous stimulus, as in the fibrillar trembling of wasting muscles. Allied to this are the tremors of fevers and violent emotion. He alluded to the difficulty of distinguishing between alcoholic paralysis and progressive muscular atrophy. In tremors, both alcoholic and febrile, we recognize a peculiar nervous constitution in those subject to them, and this leads up to spontaneous paralytic tremor. He then described a group of symptoms associated with a peculiar change in the white matter of the brain, called "insular sclerosis," or "*scleroses en plaques*." In this disease there is tremor without affection of the mind or true paralysis. The tremor ceases when the part is supported, in this differing from paralysis agitans. The nodding of the head is very distinct. There is stiffness of the legs and absence of pain in the legs; in this it differs from locomotor ataxy. The disease would appear to be not uncommon, as there have been five cases in Guy's Hospital this last year. It seems to be invariably fatal. One case, in a girl aged 23, came on after a shock of horror three years before. The arms and legs oscillated on attempting to sit up; speech was syllabic; nystagmus and mental feebleness supervened. A drawing of the brain in section of this case was shown, representing insular gray patches scattered through the white matter. On microscopical examination, these patches showed no trace of nervous matter. Another case also appeared to originate in shock, the woman finding her husband in bed with another woman. In another case, the first noticed symptom was inability to wipe the shoes.

Aspiration in Pleurisy.

In the opinion of many physicians, the most valuable instrument in their possession at the present time, whether for remedy or relief, is the pneumatic aspirator. Held to be simple, certain, and safe, it has already worked many marvellous cures since its introduction only a few years ago. In the treatment of pleurisy especially the aspirator has been most extensively used, and with the most encouraging results. Yet, notwithstanding the amount of success which has attended the aspiration of pleuritic effusions, those who have employed the method most frequently and most intelligently will be the first to confess that the operation is not without its serious objections; that there are certain difficulties and dangers, and some possible unfortunate results, which must be seriously considered before aspiration is undertaken. It is perhaps not so common now as it seems to have been twelve months ago to hear of the needle being used as a simple means of completing a diagnosis in some complex condition of lungs and pleura, or of aspiration being performed in an almost routine fashion whenever the signs of fluid in the chest were discovered; for results very unsatisfactory, or as unfortunate as possible, and by no means of infrequent occurrence, have served to check the somewhat unreasonable rush after this, as after many another novelty. In some quarters, indeed, there has grown up a very serious opposition to the popular practice, and strong reasons have been urged why it should be considerably modified. Quite recently the operation of aspiration in pleurisy with sero-fibrinous effusion has been assailed by a German physician—Dr. BECKER, of Munich (*Berliner Klinische Wochenschrift*, Nos. 41 and 42, 1874), who brings forward a number of serious objections to the removal of the fluid under other circumstances than those of immediate peril to life. These objections are both interesting and important, and, whatever their fate, deserve the serious attention of the profession. We shall state them briefly, and without further comment.

Dr. Becker discusses the advisability of paracentesis in pleurisy with sero-fibrinous effusion, from two points of view. Approaching the subject in the rational direction—from the side of the anatomy of the condition—he asks what effect the removal of a quantity of effusion can have on the remainder, and on the parts within the chest generally. And, secondly, he very correctly reserves for separate discussion the condition in which neither such a question nor any other is to be asked—where the matter is one of life or death; where the operation of paracentesis is one of necessity. There can be no hesitation under the latter circumstances; from the very amount of the effusion, or from the presence of other cause of circulatory interference, or because of various possible complications, life can be preserved only by the prompt removal of the fluid. With this exception, however, and looking at the question, as we have said, from a rational point of view, Dr. Becker gives a decided answer against aspiration of a sero-fibrinous pleuritic effusion. Even when the pleural cavity is so full that the heart is much displaced—as long as the respiration and circulation are not disturbed—he would leave the cure to nature. He contends that when the fluid has reached a certain amount effusion ceases, and the current setting in in the opposite direction towards the vessels, the cavity is gradually emptied, and the familiar changes of contraction and adhesion occur in due order. He points out that nature spontaneously limits the amount of effusion by compressing the root of the collapsed lung, and thus so far arresting the circulation in the vessels of supply. Such is the normal course; and if the physician should interfere and remove the fluid before the pressure in the pleural cavity has reached a certain height, he will simply restore the circulation in the pulmonary vessels, re-establish the conditions of effusion, bring the rough surfaces of the pleura into frictional contact, and have robbed the system of so much precious fluid.

The circumstances are even more serious, according to Dr. Becker, when the collapsed lung is adherent. Should aspiration then be performed, the fluid speedily refuses to flow, the tube collapses, and the air forces its way around the needle into the chest. The last-named accident is a matter of unhappy

experience, and demonstrable by experiment. Nor is this the worst; the lung, expanding unequally, may undergo alveolar dilatation; it becomes hyperæmic; hæmoptysis may occur at once, and bronchitis and pneumonia supervene. Dr. Becker relates a case under his own observation where this unfortunate sequence was observed. Less serious reasons for letting nature alone in sero-fibrinous pleurisy without urgent symptoms are, according to our author—the fact that the risk of sudden death from fatty heart, which is present in such cases, is not removed by operation; that marasmus is not relieved by it, for fresh pleurisy often comes on; and that the chances of empyæma increase with every tapping.

It is not our intention in this place to discuss the several points raised by Dr. Becker, or to criticize the conclusions at which he has arrived. We have stated his objections to the free and frequent use of the aspirator in pleurisy in order to present to the profession in this country certain views which, if they are not correct, are at least worthy of serious consideration. It was not to be expected that these opinions would go unchallenged in Germany, and accordingly we find that within a few weeks a reply to Becker was made by EWALD, of Berlin (*Berliner Klinische Wochenschrift*, November 23, 1874). Ewald takes up the position which would most naturally be occupied under the circumstances, and defends the operation of thoracentesis, both by the remarkable results which have rewarded the practice of it, and by more than one theoretical argument. Meanwhile, facts are being rapidly accumulated by careful observers throughout Europe; and it would probably be premature to pronounce decidedly at present on the value of aspiration in pleurisy; or to attempt to define the circumstances under which it is to be used.—*Med. Times and Gaz.*, Jan. 2, 1875.

— *Destruction of One Lung by Inflammatory Phthisis.*

Dr. ALONZO CLARK, of New York, reports (*Medical Record*, Jan. 2, 1875) a case of this possessing the following points of great interest.

1. The function of one lung was completely abolished, and yet the subject of this destruction had recovered from a dangerous sickness while the destructive process was going on, and enjoyed what was called good health after it was completed.

2. This destruction was the consequence of a pneumonia, which in the first week was only distinguishable from the most common form of that disease by the facts that it occurred a week or eight days after a pulmonary hemorrhage, and that it was attended by a free expectoration of blood.

3. This pneumonia, however, did not resolve—never was resolved by either of the usual methods, vesicular softening and expectoration, or vesicular softening and absorption—but after six or eight weeks began to break down, with a sort of ulcerative action that destroyed all the different lung tissues at the same time; and seven months from the beginning of the pneumonia this process had excavated all the upper portion of the lung, leaving the middle and inferior portions, as far as can be judged, to the five or six following months.

4. The proper pneumonic symptoms were followed, after an interval of about two weeks, by symptoms of phthisis, which became extreme in two or three weeks from their commencement, having, however, a duration of only a few weeks, with the exception of cough and expectoration.

5. The tubercles found after death, were they the offspring of “the cheesy degeneration” of the left lung, or do they belong to the diathesis which caused the hæmoptysis that preceded the pneumonia?

6. It would hardly seem possible that the pneumonia and after-obliteration of the lung should not have obstructed the circulation from the right heart, and set back the venous blood upon the large viscera of the abdomen. Yet there was no hypertrophy of the right ventricle; and while there was infarction to a limited extent in the left lobe of the liver, and enlargement of the spleen, the liver is described as smaller than natural. The size of the pulmonary arteries, right and left, is not referred to; but it is fair, under the circumstances,

to infer that the right branch was materially enlarged, and the right heart in this manner relieved.

7. In rapid and overwhelming hæmoptysis, such as this patient suffered from, it is common to find that portions of the blood have been drawn into the lung, producing spots of pulmonary apoplexy. In this case nothing of the sort occurred, but the blood not actually discharged from the mouth seems to have found its way into the stomach.

On a Rational Treatment of Pulmonary Phthisis.

In a note presented to the Paris Academy, M. PIETRA SANTA upholds the doctrine of curability of pulmonary phthisis, after combating the German theory of cellular proliferation and the fatalism of Broussais' school. For him, pulmonary phthisis is essentially a general and constitutional affection, a profound alteration of the acts of nutrition, a malady of the blood. Therefore there is no panacea for a malady (symptomated by enfeebled vitality), of which the several phases of evolution form as many distinct morbid entities. There can be no antidote for a morbid diathesis, pre-existent to local anatomic lesions which characterize the affection. The unique specific for pulmonary phthisis is an intelligent and rational association of that collection of medicaments of which experience and chemical observation have made known the efficacy. The matter may be included in these precepts:—

1. To call to aid, during all periods of the malady, all hygienic resources—moral and hygienic treatment, pure and renewed air, tonic alimentary regimen, moderate exercise, lactic diet.
 2. To utilize mineral-waters—sulphuretted, arsenical, chlorides.
 3. To call to assistance the salutary effects of change of place, sojourn in temperate climates in winter, in mountainous countries during summer.
 4. To neutralize the morbid ferments that engender in the organism purulent absorption, and lead to establishment of tuberculous matter. This is effected by the administration of hyposulphites and of alkaline and terrous sulphates.
 5. Never to neglect the numerous general therapeutic agents, when these tend to combat the complications inseparable from each period of the malady.
- London Med. Record*, Dec. 20, 1874.

Diphtheritic Exudation in Endocarditis.

The case of which the following is a brief abstract is reported by MAIER (*Virchow's Archiv*, Dec. 1874), as occurring at the Clinique in Freiburg. A man of 39, who had previously suffered from several attacks of pneumonia and pleurisy, was admitted into the hospital for an illness that had begun two or three weeks before with a chill and severe pain in the left side. Continuous fever had followed, with loss of appetite, diarrhœa, cough, and pain in the head. He died three days after admission. At the autopsy the free margins of the valves of the pulmonary artery, as well as the surfaces and margins of the aortic valves, were found to be somewhat thickened; while there was an ulcerated opening at the junction of two of the latter, leading to a canal which pierced the base of the interauricular septum, and communicated with the left auricle by a ragged orifice. The left kidney was shrunken and destroyed, while the right contained a large abscess, which communicated with the pelvis of the kidney. Examined by the microscope, the exudation on the ulcerated aortic valves was found to be identical with what is found in the mucous membrane of the pharynx in diphtheria, the characteristic elements being extremely small, shining, spherical granules in a mass of detritus. These bodies were not dissolved by ether, nor did they yield to solutions of caustic soda, nor were they coloured by iodine or carmine as readily or deeply as the rest of the tissues. He regarded them, in fact, as independent organic forms, viz., the spherical form of the organisms known as bacteria. Few of these were found in the uriniferous tubules; but they were abundant in the capsules of the malpighian bodies. Maier recalls in

this connection, the facts reported by Beckmann, who found the same bodies in the uriniferous tubules and malpighian tufts in cases of puerperal and septic disease. Maier regarded the case as one of primary diphtheritic endocarditis, with secondary embolic processes in the kidney, of a septic character.—*Medical Record*, Jan. 16, 1875.

On Hypertrophy of the Heart.

Hypertrophy of the heart depends, according to ZIELONKO (*Virchow's Archiv*, Bd. lxii. Heft 1, November, 1874), upon the development of the young cells already present within the substance of the heart into muscular fibres, and probably also upon a new formation of them. The free-existing muscular fibres do not show an increase of their volumes. On the whole, the age, the general nutritive condition of an individual, together with local inflammatory processes, favour the development of hypertrophy of the heart, whilst the increased amount of work which the organ has to perform does not appear to have the same influence. Those changes also occur most frequently in youth, when the stimulus to the development of the organ is most powerful.—*London Med. Record*, Dec. 30, 1874.

On Thrombosis.

From his experiments and observations, ZAHN (*Virchow's Archiv*, Band lxii., Heft 1, Nov. 1874) distinguishes thrombi into the red and the white. The former are produced by coagulation of the blood within the vessels; the latter would form the deposition and the gradual accumulation of colourless blood-corpuscles. Mechanical injuries, such as straining, tearing, or cutting, or chemical irritants, as ether, ammonia, croton oil, turpentine, and chloride of sodium applied to bloodvessels, lead to the formation of thrombi. The intensity and the duration of the injury, together with the previous condition of nutrition of the individual, determine the durability of the clot. The process of formation is the following. Colourless blood-corpuscles adhere to a part of the intima denuded by an injury of its endothelium. They accumulate there, form a ringlike obstruction, and gradually the clot obstructs the vessel altogether. If the injury be slight, and the nutrition of the individual unimpaired, the current of blood soon breaks through the blood-clot, and carries along the flakes of the colourless blood-corpuscles. The normal condition is soon restored. If the injury of the vessel be more severe, and the surrounding tissue already in a state of irritation, the thrombus, whilst forming in the same way as described, is firmer and larger. The obstruction is more complete, and lasts for twenty-four hours and more; after that period the thrombus begins to disintegrate into granular fibrine, the outlines of the blood-corpuscles composing the thrombus cease to be visible, and thus an uninterrupted circulation is re-established.—*London Medical Record*, Dec. 30, 1874.

Gastro-Pulmonary Fistula.

Fistulous openings between the stomach and other organs are, it is well known, the occasional consequence of the progress of gastric ulcers. Perforation of the diaphragm is one of the rarest of these events, and very few instances of it are upon record. A well-marked case, however, is described by Dr. JULIUSBURGER, of Breslau, in the *Berliner Klinische Wochenschrift*, and is of especial interest from the marked symptoms which existed during life, and rendered the diagnosis of the condition tolerably easy. Symptoms of gastric ulcer had existed for some months, when signs of perforation showed themselves, with peritonitis, etc., followed by fulness of the right side of the epigastric region, and in a day or two by dulness in the right side of the thorax. A month afterwards, after a rigor, quantities of stinking fluid were coughed up; the epigastric swelling, before dull, became resonant, and pressure upon it increased the expectoration, in which from time to time particles of food

were found. Death occurred two months afterwards, and an ulcer was found on the posterior surface of the stomach, near the pylorus, which communicated by a small opening with a cavity the size of a fist, formed apparently by peritoneal adhesions, and containing air and fluid. At the upper part of this, a small opening through the diaphragm, about the size of a fourpenny-piece, communicated with the right lung, the openings of several small bronchial tubes being exposed. In both lungs there was disseminated tubercle, and in the spleen some pyæmic abscesses.—*Lancet*, Jan. 16, 1875.

Hemorrhagic Infiltration of the Pancreas as a Cause of Sudden Death.

Certain observations made on this subject by Prof. ZENKER, of Erlangen, and communicated by him at the meeting of the German Scientific and Medical Association at Breslau, would appear to be of great importance to the physiologist, practitioner, and medical jurist. Cases of hemorrhage into the pancreas, associated with sudden death, have very rarely been recorded; they are probably more common than is believed, for Zenker met with no less than three within twelve months (*Daily Bulletin of the Forty-seventh Meeting of the German Scientific and Medical Association*). The facts observed were very nearly similar in each instance—a corpulent subject died suddenly, or was found dead: post-mortem, the only fresh pathological appearance was extensive hemorrhagic infiltration of the pancreas and neighbouring connective tissue, and advanced fatty degeneration of the pancreatic parenchyma. Further, there was found, in two of the cases, bloody effusion in the duodenum; and, in two, excessive hyperæmia of the semilunar ganglion.

The coincidence of these remarkable pathological conditions with the occurrence of sudden death indicates, according to Zenker, the great importance of the observation from a forensic point of view; henceforth the pancreas must not be omitted in the examination of the organs after sudden death. In one of the cases, indeed, Zenker was able very strongly to urge that the subject—whose body was found in the water—had probably not committed suicide, but had dropped dead into the stream. On the other hand, these cases very readily remind the physiologist and surgeon of death by mechanical injury to the abdominal viscera—of what is usually termed “shock.” It is an interesting fact that in two of the cases, as has been described, the semilunar ganglion was hyperæmic; and it is further a fact that in one at least of these the heart was found in precisely the same condition as that of the frog after Goltz’s familiar *Klopfversuch*, or tapping-experiment—namely, relaxed and empty. And Zenker believes that, whether directly or indirectly caused, paralysis of the heart must be regarded as the immediate cause of death in these cases.—*Med. Times and Gaz.*, Jan. 9, 1875.

On the Etiology of the Lobulated Liver.

This paper was originally read on January 24 last, before a society at Schwerin, but now constitutes a large portion of Betz’s *Memorabilien*, xix Jahrgang, 8 Heft. The preparation to which it refers was a typical specimen of lobulated liver, from a single lady aged thirty-eight. METTENHEIMER remarks that most diseases of the liver can be more thoroughly studied in private practice than in hospital wards, on account of their chronic course. When first seen, the patient only complained of frequent severe headaches, compelling her to lie down, with which she vomited bile. These attacks seemed hereditary; all her living sisters are subject to severe hemicranial headaches. Her father died young of apoplexy. The mother died of “consumption” at sixty-one years of age. The patient was delicate from childhood, but had never kept her bed. Her catamenia were always scanty and somewhat irregular, but never ceased till just before death. From her twentieth to her thirtieth year she was a governess. When about twenty-six she was chlorotic, and suffered from small ulcers in the left leg, the scars of which were yet visible. These lasted some time, but she entirely recovered, and never kept her bed on their account. On being consulted the first time, vomiting induced Mettenheimer to examine the abdomen.

The liver then extended about four finger-breadths below the margin of the ribs. It felt very hard, but smooth, not nodulated, not at all tender, and its upper border was normal. She drank very strong coffee, and indulged in sauces and highly seasoned meats. She was thin, but had a good fresh colour. The bowels were mostly constipated, but this seemed not to trouble her. She was rather excitable, and was able to indulge freely her gastronomic tastes, whilst exposed to frequent causes of vexation. These things probably had a share in causing her complaint. Passing over the remedies used for her sick headaches, vomiting, etc., it is to be noted that the hitherto smooth surface of the liver became somewhat suddenly elevated into nodules of a bullet-like form, and about the size of a pigeon's egg; there was a febrile movement about the same time. These nodules were easily felt in the epigastric region, and were very painful. Local blood-lettings acted famously, as stated by Hensch (Klinik der Unterleibskrankheiten, Berlin, 1863, 3 Aufl. s. 350), for the nodules became smaller and less tender. She afterwards benefited still further by a "cure" at Carlsbad—so that the nodules were scarcely to be felt, except at the edge of the liver. Suspensions of carcinoma were entertained. Her emaciation favoured this. Mettenheimer had previously noticed the development of cancerous tumours in inflammatory attacks, and found them relieved by local blood-lettings [see his *Nosol. und Anatom. Beiträge zu den Greisenkrankheiten*, s. 95, 96]. The success of the Carlsbad "cure," more striking than in Oppolzer's case (Hensch, *loc. cit.*, p. 148), raised a doubt as to malignancy. She gained flesh and felt pretty well. But the liver remained much enlarged, her bowels were constipated, and she had bilious vomiting. This was four years before her death. In the early spring of every year, her symptoms became aggravated; the feet and legs became oedematous—she had dyspnoea, etc. Local blood-lettings again relieved, but in the third year she once more went to Carlsbad—was relieved—but the state of the liver was still the same. In February, 1873, she became more emaciated, the catamenia were suppressed, the urine scanty, though it never became albuminous, even up to death. Ascites set in, and tenderness and pain over the liver grew almost unbearable. Morphia gave her more relief than any other treatment, especially checking rigors and coldness of the extremities, from which she suffered if she did not take morphia. The conjunctivæ were very slightly tinted, but her face acquired that brownish-green coloration, deeper as she grew thinner, which is so characteristic of this disease. There were copious perspirations every night. Acupuncture gave little relief, therefore paracentesis abdominis was performed; the enormous quantity of two and a half *eimer* (nearly twenty gallons) of clear yellow serum being evacuated. A second tapping, after three weeks, removed nearly eight gallons. Some improvement followed this, and the patient even began to walk about. Though resembling a living skeleton, she enjoyed life very fairly by the constant use of morphia. Death occurred eight months after ascites set in; she had then been tapped three times. Before death she suffered extreme pain, had aphthæ, lastly a rise in temperature, then coma, and in this she died. The *post-mortem* examination showed numerous adhesions between the abdominal viscera; the liver, pancreas, stomach, duodenum, and diaphragm were all closely adherent to each other. Numerous coagula and strings of fibrin were found, with turbid serum and other signs of chronic peritonitis. The liver was of very considerable size, occupying chiefly the right hypochondrium. It was an unshapely mass, composed of knobs of the size of apples (*sic*), separated from each other by strong connective tissue, which also interlaced them. The left lobe of the liver was a mass of the size of a fist, connected with the rest of that organ only by a short stalk. The enlarged spleen and some coils of intestine filled the left hypochondrium. The parenchyma of the liver was extraordinarily firm, cut with difficulty, was of dark-brown colour, somewhat marbled, rich in blood and pigment. The contracted gall-bladder was difficult to find, and contained numerous coffee-coloured calculi, of the size of a pin's head, or even smaller, and quite soft. The spleen was indurated, of the size of two fists. The kidneys were congested only. The uterus and ovaries were normal. The mesenteric and other abdominal glands were pigmented. Both pleural cavities contained serum. There was no

tubercular disease of the lungs, nor cavities in these organs. The heart was diminished in all directions (microcardia). The right ventricle of the heart was as thin as paper. There was concentric hypertrophy of the left ventricle; it would hold scarcely a thimbleful of blood. There was slight atheroma of the bases of both aortic and pulmonary valves. There was no other valvular disease.

In commenting on the case, Mettenheimer considers it to have begun in a localized hepatitis—which afterwards led to the formation of nodules—or lobulation. [Fig. 4, p. 75, and fig. 5, p. 85, of vol. ii. of Dr. Murchison's translation of Frerichs on the Liver. New Sydenham Society, give a good idea of the "lobulation" or nodulation just described.] He remarks that anatomists, such as Rokitsansky, draw a sharper line of demarcation between this and the common form of cirrhosis than do clinical observers such as Frerichs, whose eighteenth case the one above resembles [*loc. cit.*, p. 85]. The commonest cause of this condition is syphilis, as alcohol is of the cirrhotic liver. The two authorities quoted, and Budd also, agree in this. As regards our case, there were no proofs of this. She had intact and virginal genitals. The only symptoms in her history the least suspicions were the ulcers on the legs. They were, however, regarded as varicose, and healed easily by simple remedies. The false membranes at the apices of the lungs are found in other diseases besides syphilis. May the syphilis have been congenital? There is no evidence, save the negative statements of her sisters. Both parents are long since dead. The strong coffee, pickles, spiced comestibles, and frequent mental perturbations of our patient, were doubtless the cause of her attacks. He does not think the nodules were ever abscesses, only hyperplastic formations. Probably Oppolzer's case of cancer ameliorated at Carlsbad resembled this, though Virchow (*Krankhafte Geschwulste*, vol. ii. p. 428) seems to think it a gummatous formation. There was no waxy degeneration in the spleen or liver, or any other organs of our case. Ascites is not easy to recognize in an early stage; it therefore seems unwise to lay much stress on the priority of this or of oedema of the feet, as a diagnostic sign of the liver disease, or of cardiac and pulmonary mischief. The microcardia was probably partly congenital, partly a symptom common to other muscles, which were much wasted all over the body. Concentric hypertrophy of the left ventricle is not uncommon in cases of small heart. See Bouillaud; and Mettenheimer's *Beobachtungen über die typhoiden Erkrankungen der französischen Kriegsgefangenen in Schwerin*, Berlin, 1872, s. 49). It is notable, that till just before death, there was never any suppression of bile, nor any abnormal quantity of bile-pigment in the urine.—*Lond. Med. Record*, Dec. 23, 1874.

On Enlargement of the Spleen, especially in Infectious Diseases.

At the forty-seventh congress of German naturalists and medical men, lately held at Breslau (*Berliner Klinische Wochenschrift*, November 30, 1874), Dr. BIRCH-HIRSCHFELD, of Dresden, remarked that formerly attention had been directed to enlargement of the spleen in malarious diseases, and in enteric fever, but not in other maladies. Of late it has become more and more evident that acute tumefaction of the spleen occurs in a number of infectious diseases, as, for example, in relapsing fever, and, as pointed out by Weil, in recent attacks of syphilis. Friedreich has even proposed to utilize the splenic tumor as a means of establishing the infectious nature of certain diseases hitherto considered as simple local affections [many forms of pneumonia, coryza, angina, etc.]. The speaker had already brought before the Leipsic Natural History Society experiments on the behavior of the cells of the splenic pulp with finely-divided substances introduced into the blood-mass. Since then he had endeavoured, with the anatomical and pathological materials at his command, which were somewhat extensive, to furnish some foundation for the statistics of splenic tumours. Clinical observations by themselves are not always trustworthy, because even experienced observers may easily make mistakes as to the percussion-limits of the spleen. In order to judge of the dimensions of the normal spleen, the bodies of sixty persons, who were suicides, or who met with violent

deaths, but were otherwise healthy, were taken as standards. The average weight of the spleen was one hundred and fifty grammes ($4\frac{3}{4}$ ounces nearly), equal to 0.26 per cent. of the body weight. In one hundred and forty-five other cases, under fifty years of age, the result was not very different, namely one hundred and forty grammes ($4\frac{1}{2}$ ounces) or 0.27 per cent. (*sic*). Above sixty years, the weight of the spleen, like that of the body, decreases considerably, being ninety-nine grammes ($\frac{5}{11}$ 斤 $\frac{5}{11}$ ss), or 0.23 per cent. of the body weight. Birch-Hirschfeld distinguishes between the etiology of primary cases of enlarged spleen (in leucæmia, and in bodies appearing otherwise healthy, dependent upon hypertrophy of the pulp and Malpighian corpuscles), and secondary cases. To the latter belong (a) splenic tumours dependent on blood-stasis (considerable enlargement from uncompensated mitral insufficiency; spleens a little above normal in insufficiency of the aortic valves; finally, the pretty constantly occurring enlargement accompanying cirrhosis of the liver); (b) splenic tumours through amyloid degeneration; (c) those which occur in infectious diseases. In enteric fever the spleen-tumour is generally most marked in the second or third week, and disappears in the fifth week. He confirms Friedreich's observation, that the spleen is enlarged during the period of incubation. In the common form of variola, when fatal, there is no enlargement of the spleen. He includes the splenic tumours found in some forms of pulmonary tuberculosis amongst those caused by septic infection; the tumefaction of the spleen occurs in cases where the walls of cavities afford a surface favourable to absorption, especially where sudden ulcerative breaking up of the lung is brought about by purulent bronchitis. Comparison of metastatic pyæmia in the wounded and in puerperal cases, and of phlegmonous and gangrenous diseases of wounds without metastatic formations, with the phlegmonous simple peritonitic form of puerperal fever, showed this analogy, that the rule is to find a splenic tumour where there is metastatic infarction, or where infectious thrombi can be demonstrated in the course of the circulation; but where only phlegmonous processes are discoverable, the splenic tumour is hardly ever found. If we admit that there is a common source of infection for both forms, we must conclude that the matter absorbed by the splenic pulp-cells must be a non-diffusible one of stable constitution. Granular degeneration, along with solution and increased multiplication of the splenic pulp-cells, is peculiar to the septic tumours of the spleen, whilst, in enteric fever, the latter changes predominate. The septic tumours of the spleen appear to the naked eye as very soft, and of a pale yellowish-red, or speckled aspect. In congenital lues, enlargement of the spleen is almost always discoverable. In four cases also of acute rheumatism ending fatally, and in six of scarlatina, the spleen was found much enlarged.—*London Med. Record*, Jan. 6, 1875.

On a Case of Intermittent Chyluria.

Dr. OEHME relates the case in the *Deutsches Archiv für klinische Medizin*, Band xiv. The driver of a hackney-coach, aged fifty, who suffered (as was learnt from the necropsy) from cancer of the pylorus, exhibited, besides the symptoms due to his gastric affection, the striking peculiarity that from midnight to five or six A. M., he passed an extremely white milky urine, which was in fact chyle, containing, as it did, fat and albuminous matters. This peculiarity was some time in establishing itself; at first he often passed some days without other than normal urine. The patient himself first observed this character of his nocturnal secretion at the close of the year 1872, and in consequence of extreme anorexia it ceased seven weeks before his death in August, 1874. This case is remarkable on two grounds: first, that the affection was intermittent, which has never before been described; and secondly, its subject had never been in the tropics, even for a day, which has heretofore been considered an essential element in the history of such cases.

[In Dr. Tanner's *Practice of Medicine*, 5th edition, p. 604, reference is made to some cases of chylous urine of an intermittent character, and the reporter knows of cases in which the sufferers have never been in the tropics. The disease is, however, rare in our latitudes, many cases supposed to be examples of

it being instances of white lithates, with deficiency of pigment or accidental admixtures.]—*London Med. Record*, Jan. 13, 1875.

On Renal Calculus.

At a recent meeting of the Pathological Society of London, Dr. CAYLEY showed a renal calculus which was discharged through a fistulous opening in the loin. The patient is now thirty-three years of age, and in good health. Seven years ago he suffered from an abscess in the right lumbar region, which discharged for about three years. About six months after its formation, the calculus came out. It was of irregular club shape, the size of a hazel-nut, with a facet at the narrow end as if it had been broken off. Two smaller calculi subsequently ulcerated out, one close to the crest of the ilium, and one below the great trochanter, the scars still remaining.—*London Med. Record*, Dec. 30, 1874.

Calculous Disease of the Kidneys.

Dr. W. R. BASHAM, Senior Physician to the Westminster Hospital, London, in an interesting article on this subject (*Practitioner*, Dec. 1874) shows how important it is for a correct prognosis, that the nature of the calculus be correctly ascertained by analysis. The following are his conclusions: If the calculus be oxalate of lime, either chiefly or solely, it may be concluded that it is unaccompanied by others—in fact, that it is solitary; and the probability of the recurrence of the disorder reduced to a minimum. Experience justifies this prognosis. If, on the other hand, the calculus be composed of lithic acid, pure or mixed with lithates, it is almost certain that either there are others ready to follow the first, or at any rate that the material for their formation is in existence, and that sooner or later the recurrence of the disease may be expected. Hence, an important clinical induction follows, that in the lithic acid diathesis, those dietetic and therapeutic measures which experience teaches are the best alleviations must be unremittingly continued, or at any rate should be frequently employed, especially on the slightest sign of disturbed renal secretion. In the oxalic diathesis this is less needed, for the recurrence of calculus in the kidney when pure oxalate of lime concretion has been passed is extremely rare.

On the Pathology of Lupus Erythematosus.

Dr. GEORGE THIN, at a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, Jan. 16, 1875), stated, as regards the pathological anatomy of the disease, that microscopical examination of the skin in the various stages of the affection by Neumann, Giddings, and Kaposi, has shown that there is great vascular congestion around the sebaceous and sweat glands, more or less destruction of the glands themselves, and cell-infiltration of the surrounding corium. Dr. Thin has had an opportunity of examining the skin of a man who died under Hebra's care in Vienna in 1873, in whom the disease had begun to show itself in the part examined—viz., on the dorsum of the foot and toes, only a few weeks before death. He removed a portion of the skin from the inner surface of the second toe, beyond the area of the sebaceous glands. He found the sweat glands, the rete Malpighii, and the fibrillar tissue perfectly normal in appearance. There was, however, enormous dilatation of the capillaries, which was most marked in the papillæ and around the sweat glands, the contour of the dilated vessels being mostly indicated by the red blood-corpuscles with which they were filled, but the vessels themselves being visible in some of the sections. The small veins were also distended by blood-corpuscles. The fact that this condition of the capillaries was found in such an early stage of the disease, and before any other changes, and that it would, if persistent for any length of time, give rise to all the changes in the tissues described by other

observers, led the author to doubt whether lupus erythematosus primarily affects the glands of the skin. The author stated his belief that, in the present defective state of our knowledge of the pathological anatomy of the disease, dilatation and distension of the capillaries is the earliest morbid condition which has been detected, and that this would correspond with stasis of the circulation during life. A well-executed drawing of the microscopical appearances was shown.

The discussion was commenced by Mr. JONATHAN HUTCHINSON, who inquired why erythematous lupus should be considered specifically distinct from other forms. Speaking only from an examination with the naked eye, and without the microscope, he did not know any features which would suffice to distinguish it. He pointed out that whilst in some forms the sebaceous glands appeared to be especially affected, as in the form first recognized by Mr. Startin, who called it "sebaceous lupus," in others the sweat-glands are more so, whilst the rarest form is that which comes on acutely, especially affecting the vessels, and accompanied by hemorrhage. Probably, on the examination of a large number of cases, all the structures of the skin might be found affected, in some the sebaceous, in others the erythematous element preponderating, and in the latter cases the cicatrix left might alone decide that it was really lupus. The diagnosis between the common and the erythematous form was very difficult, resting chiefly on the absence or small quantity of deposit in the latter. Both occur chiefly in young people. Mr. Hutchinson had seen a case at the age of eighteen months, and Kaposi one at three years; in both there was a scrofulous tendency, and in both there was a slow spread and little general disturbance. The chief difference was in the treatment, cauterization, as Hebra has stated, being less successful in these cases, probably because there is less cell-growth.—Dr. Drysdale regarded the disease as a variety of scrofula, from the fact of its leaving a scar, the age at which it occurred, and the family history of the patients. He had found cod-liver oil in large doses, and painting the part with equal parts of biniodide of mercury and lead ointment, the most successful treatment.

Dr. THIN, in reply, said that there was not practically the difficulty in distinguishing the disease from lupus vulgaris which Mr. Hutchinson believed, as was shown by the experience in the St. Louis Hospital, where they are well recognized. The absence of destructive change extending into the subcutaneous tissue is a strong point of difference from lupus vulgaris. The absence of ulceration, and the common history of an origin in early life, were also distinctive. When the disease had advanced so far as to lead to cell infiltration or a cicatrix, it was of little use to examine microscopically, as so many conditions may lead to cell infiltration. He objected to the term "scrofulide" as applied to it, since it occurred in robust healthy men in the prime of life.

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On a Combination of Eczema Marginatum with Onychomycosis, and on Parasitic Sycosis.

In a recent number of the *Wiener Medizinische Presse*, Dr. ISIDOR NEUMANN, of Vienna, reports two interesting cases of parasitic skin affections. The first was a case in which the patient suffered at the same time from eczema marginatum and onychomycosis—a combination which has not been previously noticed by any observer. The upper half of the inner surface of both thighs, and the abdomen from the umbilicus downwards, were covered with a very infiltrated eczema marginatum, whose borders were skirted by a number of papules and vesicles arranged in semicircles, and there were similar patches on the cheeks and arms. The nails of the fingers were uneven, brittle, and of an unhealthy yellowish colour, and on microscopic examination chains of jointed mycelium were found in their substance running amongst the epithelial cells. This patient appears to have been infected with the fungus from a horse, which he had ridden for many years, and which had a diseased skin. The second case is one of sycosis, in which a fungus was found on the hairs and in their sheaths—a case, in fact, of the so-called "parasitic sycosis." The hairy parts of the patient's cheeks, chin, and neck were covered with patches, from the size of a

threepenny-piece to a half-crown, partly circular and partly of a semicircular shape, whose centres were covered with dirty yellowish scales, which could be easily removed, while there were small vesicles and crusts at their edges. There were also pustules here and there, each penetrated by a hair, while on the chin there were a number of tough reddish tubercles, as large as a pea, surrounded by yellowish-brown crusts. The hairs could easily be extracted, and under the microscope chains of mycelium were found running through them, while round and oblong spores, both isolated and in groups, were embedded in their root-sheaths.

This is the first case of parasitic sycosis which Dr. Neumann has met with at Vienna in his large experience. The disease appears to be as rare in Austria as in England.—*Med. Times and Gaz.*, Jan. 9, 1875.

On the Effect of Venous Obstruction of the Skin.

Dr. AUSPITZ has lately brought before the k. k. Gesellschaft der Aerzte in Vienna some observations on the effect of venous obstruction upon the skin, which are reported in the *Allgemeine Wiener Medizin. Zeitung* for Nov. 3.

1. A ligature was tied round the arm of a healthy person, as if for bleeding. First the superficial veins swelled, then a livid colour spread over the arm, beginning on the flexor surface (where the skin is thinnest), and at last affecting all but the volar eminence (the thickest part of the skin). At the same time the temperature sank. The next effect was œdema of the skin, followed in from five to ten minutes by the appearance of numerous patches of red or brownish-red colour, accompanied by minute spots, which were either bright scarlet or purple in tint. On removing the bandage, the cyanosis first disappeared, then the œdematous swelling; next the red patches gave place to a diffused blush of the whole arm; and lastly this disappeared, leaving only the minute red spots, which remained for several hours or even days. Comparing these appearances with those observed by Cohnheim in a rabbit's ear as the result of mechanical venous obstruction, there can be no doubt that the minute red spots above mentioned are extravasations, either of red blood-corpuscles or of their hæmoglobin in solution.

2. Similar experiments were next tried by Dr. Auspitz on the arms of persons suffering from measles, variola, and other cutaneous diseases.

a. In the cases of measles, it was observed that the large red patches above mentioned coincided with those of the eruption; and that, beside the minute ecchymoses, larger spots of cutaneous hemorrhage sometimes appeared.

b. The effect in cases of urticaria was less marked. The wheals were more prominent, and minute ecchymoses were not more frequent (perhaps less so) than in the normal skin.

c. In ordinary smallpox, there was intense congestion of the bases of the pustules, and the points of cutaneous hemorrhage were both more numerous and larger than in a normal arm; but there was never any extravasation of blood in the pustules themselves.

d. In cases of hemorrhagic variola, the whole of the arm below the ligature became rapidly covered by a dark-blue lividity, which concealed all minor shades of colour. This was the case even when there were few or no pustules; and when these were present, they were not themselves the seat of extravasation of blood.

e. The ligature applied to the arm of patients suffering from scarlatina had little or no effect beyond that observed in the experiments above noted on the normal skin.

f. In "scorbutic affections—*erythema nodosum*, *morbus maculosus Werlhoffi*, *purpura rheumatica*, and scurvy proper"—Dr. Auspitz was surprised to find the effect of the ligature trifling. There was no scarlet injection of the skin and no ecchymosis. This seems to confirm the old belief (recently called in question by Cohnheim) that purpura depends on a change in the blood itself, and not on any difference of pressure in the circulation, or on anatomical lesions of the bloodvessels.—*London Med. Record*, Dec. 30, 1874.

Surgery.

On Myringomycosis Aspergillina.

Dr. WREDEN, of St. Petersburg, gives, in the first number of the fourth volume of the *Archives of Ophthalmology and Otology*, the results of his observations on the fungi of the ear. He has had seventy-four cases of myringomycosis, in which he found *Aspergillus nigricans* forty-nine times, and *Aspergillus flavescens* twenty-four times, the remaining case showing the ascomycete form of the aural aspergillus, hitherto undiscovered in the ear, which, on account of its intensely red colour, he named *Otomyces purpureus*. He considers that the aspergillus, with its different varieties and fructifications, must be designated the specific aural fungus; that the false membrane developed in the affection is usually moulded into a cast of the membrana tympani and the acute angle formed between it and the inferior wall of the auditory meatus, and that the formation of this false membrane is unattended by any otorrhœa of a purulent nature. "The fungous growth never causes a real purulent otorrhœa." He has not seen a single case in which, during a profuse purulent discharge, a fungous growth has been developed, though he has seen frequently a slight serous or mucous discharge present in a case of myringomycosis. He likens the external surface of the false membrane to a piece of fat pork, while the inner surface shows bright yellow or black spots, often arranged in circles, the solitary case mentioned above being of a purplish-red colour. In all cases where fungi have been present in the ear for some time, some morbid symptoms, either subjective or objective, are found. Dr. Wreden still holds his formerly expressed opinion, that these fungi are true parasites, and not merely mouldy saprophytes, that is, fungi which inhabit only dead organic matter.—*Lond. Med. Record*, Dec. 30, 1874.

Case of Naso-Pharyngeal Polypus removed twice by Operation.

Mr. TIMOTHY HOLMES, at a recent meeting of the Clinical Society of London (*Lancet*, Jan. 16, 1875), read an account of this interesting case, which gave rise to a valuable discussion on the best mode of operation in these cases, and the liability to recurrence of the tumour after removal. The patient, a man thirty-five years old, had been originally under treatment at St. George's Hospital, in 1866, for epistaxis, which was then supposed to be due to heart disease. Later he was in another hospital for epistaxis, but no tumour was discovered. When the patient came under the care of Mr. Holmes there was no difficulty in seeing that there was a tumour projecting into the left nostril, and also hanging down behind the soft palate, and visible from the mouth. The growth bled readily, the patient had frequent epistaxis, was very pallid and weak, and spent most of his time in sleep. His condition not being such as to warrant any delay, the operation was performed as soon as possible, no anæsthetic being given. The whole of the superior maxillary bone, with the exception of the orbital plate, was removed, and the polypus, which was found to be attached to the body of the sphenoid, or the basilar process of the occipital bone, removed as far as possible. Recovery was rapid, and the hole in the palate having been filled by an obturator, the patient left the hospital. For some time after the operation he seemed to have recovered perfectly, and the deformity remaining was very slight; but about a year later he had slight epistaxis, of which, however, he took no notice. Two years after the operation he again had severe hemorrhage, and was laid up for three months with epistaxis. He applied to some one, who thought the growth was malignant and that nothing could be done. A year ago, however, he came again to Mr. Holmes, expecting no relief, and there was then found to be a large mass projecting into the nose. But opening up the scar of the former operation, through the upper lip into the left nostril, the tumour was again removed on Dec. 3d, 1873, and it was found possible to take it away almost entirely. The whole of the soft tis-

suces were then gouged away from the base of the skull, where the tumour was adherent, and lint steeped in sulphate of copper solution applied to the surface. Severe hemorrhage occurred during the operation, which was done without chloroform. The patient made a rapid recovery, and went out apparently cured. The tumours removed were in both cases of fibrous character, but in the case of the first tumour there were a few spindle-cells, whilst in the second the growth was more succulent, and contained more round-cells than spindle-cells. Mr. Holmes pointed out that the advantages of the method of operating employed were the free access to the growth and the possibility of complete ablation, so as to prevent recurrence. There was an advantage in leaving the orbital plate, as it avoided deformity. In this case the tumour could not have been reached by the nostril only, nor could a ligature have been passed round it. Nélaton's operation of splitting up the soft and hard palate would also have been inapplicable, and has, moreover, the disadvantages of being much more difficult, and being more likely to leave a permanent fissure of the palate. Mr. Holmes considered it a great advantage that the patient could bear the operation without anaesthetics, as a certain amount of risk no doubt attends their use.—Mr. CALLENDER related a parallel case, which had, however, an ultimately fatal result. The patient was a woman, who came to him eight years ago with a growth springing from the margin of the left antrum, which had invaded the antrum and the left nostril. The greater part of the superior maxillary bone was removed, and the tumour was found to have a fibroid structure. For four or five years she remained well; but in six years she returned with a large, irregular, polypoid growth under the orbital plate. Under chloroform it was again removed as far as possible, and was found to extend along the base of the skull as far back as the vertebral column. The soft parts were removed as far back as possible, no injury, fortunately, being done. The patient had a good convalescence after this second operation; but later the case turned out to be malignant, and a few weeks ago he had heard that the woman was dying. He feared that Mr. Holmes' case would run the same course.—Mr. BARWELL also believed that the ultimate removal of these tumours was impossible; they usually end as malignant. He narrated a case in which he had operated on a woman for Mr. Hancock for naso-pharyngeal polypus by removal of the upper jaw. The growth arose from the body of the sphenoid so deeply that he feared that it perforated into the cranial cavity. He saw the patient for eight months, and then lost sight of her for twelve or thirteen years. She then brought her child to him with two large naevi, and on examination of the fauces he found that there was also a large naevoid growth in the back of the pharynx, and covering the whole of one side of the soft palate. He thought it possible that there might be some connection between the two forms of growth, and there might be an hereditary tendency to these fibroid polypi.—Mr. CROFT related a case bearing on the mode of operation in these cases. In this case, on which he operated in 1871, the polypus sprang from the same situation as in Mr. Callender's case—viz., the outer wall of the nostril opposite the antrum, and projected backwards into the pharynx. In order to reach the growth he made an incision along the ala nasi to the malar process of the superior maxillary bone, and thence along the margin of the orbit. The nasal process of the superior maxillary bone was then cut through with forceps, and the periosteum stripped off from the anterior surface of the superior maxillary, and a window into the antrum made by cutting away part of the bone beneath. In this way the whole of the structures to the base of the skull were readily exposed, and it was not necessary to interfere with the rest of the bone or the skin. Although the amount of skin incision makes very little difference, the avoidance of the removal of bone is important to the patient. In this case a new shell of bone was formed from the periosteum in two months. The growth, which was a round-celled sarcoma, rapidly recurred and resulted in death.—Mr. HULKE, although his own experience had been limited to three cases, had seen three cases under Nélaton, in which the latter operated in the way mentioned by Mr. Holmes. He had been struck with the ready access which this method afforded to tumours situated just above and behind the soft palate, especially when they are small. Nélaton operated in two ways: sometimes he split the hard and soft palate, and

then waited two or three days before completing the operation; at other times he did the whole at once. Which of these methods he ultimately adopted Mr. Hulke did not know, but in those cases which he saw the split palate was much more angry-looking and sloughy when left open than when allowed to close at once. In the two of his own cases in which he had operated Mr. Hulke had left the roof of the mouth intact, which he thought advantageous. The polyp grew, not from the basis cranii, but from the posterior nares.

On the Treatment of Bronchocele.

The *Birmingham Medical Review* for January, 1875 (No. xiii.), contains an article on this subject by Dr. MORELL MACKENZIE, with seventeen life-like illustrations from photographs. This department of practice has, for the most part, been relegated to surgeons, although some forms of the disease more naturally come to a physician on account of the peculiar symptoms they set up, or by which they are accompanied. The candid student of history will hardly accuse British surgeons of any excess of zeal in this matter, since nearly all the operations and new methods of treatment have been American or continental; whilst, with some few exceptions, the various forms of this affection, however distinct in their nature, were all jumbled together in most of our surgical textbooks, prior to the publication of Dr. Mackenzie's paper in the *Lancet* (May 4, 1872). It will scarcely be possible much longer so to confound things that differ. For clinical purposes, the following classification of goitre is very convenient: 1. Simple or adenoid; 2. Fibrous; 3. Cystic; 4. Colloid; 5. Vascular. The disease may present the characteristic features of any one of the types referred to, or many of the different varieties may be associated together in varying degrees, and in different situations of the gland. This fact will be readily understood when it is borne in mind that the various kinds of bronchocele are generally different stages of development—sometimes progressive, sometimes retrograde—of the simple hypertrophied gland. Hence there are certain sub-varieties dependent on the combination of two different forms of disease, or on the special arrangement of the elements of a single variety. The principal of these are (*a*) fibro-cystic, a term which requires no explanation; and (*b*) fibro-nodular, a modification of the ordinary fibrous bronchocele, in which the fibrous structure has undergone retrograde development of a cirrhotic character. Of 447 cases (366 hospital, 81 private patients) 104 were adenoid, 187 fibrous, 23 colloid, 76 cystic, 26 fibro-cystic, 29 fibro-nodular, and 2 vascular. In the first, or simple form (*struma follicularis mollis* of Virchow) which sometimes disappears spontaneously when sporadic, Dr. Mackenzie does not rely upon iodine alone, although this is commonly regarded as a specific in endemic cases. He says that simple hypertrophy occurring in weak anæmic girls is most effectively treated by iron and hygienic measures; whilst cases not yielding to internal treatment may almost invariably be cured by counter-irritation, or internal and external treatment combined. The liquor epispasticus B. P., applied about twice a week, on alternate sides of the throat, is preferred by him to biniodide of mercury ointment. If the latter be used at all, it should be strong. Want of direct sunlight appears to render it less useful here than in India. Electrolysis is often very useful, a mode of treatment introduced by Dr. Althaus. The ointments of plumbic and potassic iodides are of little use *per se*. The 104 cases show the following results of treatment. Cured by the internal use of iodine solely, twenty-one; in nineteen cases iodine pigment was applied as well, thirteen of these were cured, six relieved. Of eleven treated by pigment alone five were cured, two relieved, four were lost sight of. Of thirteen cases treated by electrolysis nine were cured, in two the goitre was diminished; two which resisted treatment were subsequently cured by subcutaneous injections of iodine. Nine other cases were cured by this latter method of treatment. Fibrous bronchocele may be treated by hypodermic injections of iodine, by setons, or by caustic darts. Dr. Mackenzie has abandoned all these methods except the last, because it does not require the patient to give up his ordinary occupation for a single day. Out of seventy-three cases thus treated,

fifty-nine were cured, nine relieved, two left off attending, and only two were unbenefited. Reference is made to papers by Dr. Wood, Dr. Luton, of Rheims, Lücke, of Berne, Alquié, of Montpellier, Bonchucourt, Schwalbe, Hardy, Stoerk, and Lévêque, on various means and methods of injection. There are some useful hints as to the syringe to be employed. In the cases given above, the tinct. iodini. B. P. (one in twenty) was used. Subsequently simple alcohol, or iodine in alcohol of 90 per cent. (one in twelve), and saturated solution of iodide of potassium, as used by Dr. Bertin, have been employed. With very strong solutions only a few drops should be used; other precautions are mentioned in the paper; ether spray should precede. No bad effect has followed this method in Dr. Mackenzie's practice or that of Luton, Lücke, Schwalbe, Stoerk, or other physicians. Several illustrative cases are appended. Cystic bronchocele is treated by our author with solution of perchloride of iron—the fluid being left some hours in the cyst, sometimes after a preliminary tapping, which should never be complete. Of fifty-nine cases which submitted to treatment fifty-eight were cured, and one died from the entrance of air into the vein. Dr. Mackenzie now uses a syringe devised to prevent the entrance of air. The duration of treatment is from three weeks to four months, six to eight weeks being a usual time. The following are his conclusions (in substance, not in words). 1. Cysts as large as a hen's egg should always be actively treated; so should smaller cysts if they cause serious dyspnoea or dysphagia. The best mode of treatment is that which converts the cyst into a chronic abscess; this is best done by ferric perchloride, to guard against hemorrhage. Iodine injections in this form often cause sloughing. This treatment of cysts is not devoid of risk from profuse suppuration; and in common with all operations in the neck, there is the danger of air entering a vein, and causing sudden death. In pure cystic goitre this risk is, however, very small. Several cases in illustration are appended to this portion of the article.—*Lond. Med. Record*, Jan. 20, 1875.

Colotomy.

At a recent meeting of the Pathological Society of London, Mr. BRYANT, Surgeon to Guy's Hospital, related (*Lancet*, January 9, 1875), an interesting case of *colotomy for complete occlusion of the rectum* in a girl eighteen years old, and showed the affected organs. There was a history of long-standing constipation, which had been troublesome for a year, and for seven weeks before the operation the obstruction had been complete. The operation was performed in the ascending colon, as there was a difficulty in ascertaining the exact seat of obstruction, and recovery was rapid and apparently complete. A month before death she took to bed, and died apparently merely from debility. At the autopsy the rectum was found to be completely occluded, so that a bristle would not pass through. There were numerous small masses of new growth resembling cancer in the pelvic peritoneum. Microscopically they resembled cancer, although containing much fibrous tissue. There was great hypertrophy of the muscular coat of the bowel above the seat of stricture, showing that the obstruction had been of long duration. An interesting discussion then arose as to the real explanation of the history of the case, founded on the improbability that cancer should have existed for some years in so young a person, or that there should have been obstruction from some other cause, and the subsequent occurrence of cancer. Sir W. Jenner inquired whether Mr. Bryant believed that the cancer had existed for a long time. Mr. Bryant replied, that, although some trouble with the bowels had occurred for some years, there was no history of actual obstruction until a year before, when probably the new growth began to contract, and difficulty in defecation, with pain, but no hemorrhage had resulted. There was no history of previous dysentery or other disease, nor any syphilitic taint. Mr. Thomas Smith asked whether the artificial anus in the right loin was found to be more convenient than in the left; and Mr. Bryant stated that he had not found it to be so. Mr. Mauder suggested the reference of the specimen to the Morbid Growths Committee, and inquired whether an enlarged gland might not have accounted for

the obstruction. Mr. Nunn suggested that it might be due to congenital syphilis. In answer to Sir W. Jenner, Mr. Bryant said that there must have been a chronic stricture. Dr. Hare found difficulty in explaining the case, since it was improbable that there should have been first a simple, and then a cancerous stricture.

Mr. Bryant also showed another very interesting specimen of somewhat similar nature—namely a case of extreme ulceration of the rectum caused by colotomy. The patient was a female, aged twenty-four, married, who had had one miscarriage and one child, and probably suffered from syphilis. There was a narrow stricture of the rectum, and ulceration extending upwards from the anus. The stricture only admitted the tip of the forefinger, and there were sinuses leading into the vagina and buttock. As the patient was very feeble, and the bowels did not act, colotomy was performed. She rallied rapidly, and in the ninth week after the operation, the finger was readily admitted into the rectum, and the ulceration was found to be cured. A free incision was made into the buttock to give exit to pus and fecal matter which had accumulated. Subsequently she died, nineteen weeks after the operation, from acute suppuration of the hip-joint, set up by a large abscess between the rectum and sacrum, from which pus had burrowed into the hip. So far as the ulceration was concerned the operation was entirely successful, and no specific treatment had been adopted. Mr. Christopher Heath inquired whether it would not be usually anticipated that ulceration would lead to cicatrization and contraction? Mr. Bryant agreed that this was an exceptional case in that respect. As a rule, contraction does occur, but in this case there could be no doubt as to the fact of the ulcers having healed without contraction.

Case of Eversion of the Bladder in an Adult over Forty Years of Age.

Dr. GEORGE THOMSON relates (*Lancet*, January 9, 1875) the following case:—

“On the 7th of August, 1873, I was hastily summoned to Mrs. R., during the temporary absence of her regular medical attendant, Dr. Yates, of this town, by whose kind permission I publish the following notes of her case: I found the patient, a married woman, somewhat over forty years of age, on her hands and knees in bed, writhing with pain, and straining violently. I was informed that while passing water, about half an hour before my arrival, she felt something come down, and was immediately seized with violent straining pain, and had been ever since in the condition in which I found her. On further inquiry it transpired that she had been suffering for nearly twenty-four hours from acute cystitis, of which I found abundant evidence in the recently-evacuated urine.

“On digital examination I found, instead of the anticipated uterine displacement, a small, hard, nodulated tumour, about the size of half a walnut-shell, and covered over with some gritty substance protruding from the orifice of the urethra. Procuring a candle, I at once made a closer inspection of the tumour, which I found to be rugous on the surface, of a deep-red colour, and encrusted with a white calcareous-looking deposit, which was afterwards ascertained to be phosphatic.

“As the condition of the woman prevented me from easily obtaining further information, I sent at once for chloroform and the necessary instruments, imagining that I had to deal with some outgrowth from the urethra or bladder which would require removal. It then passed through my mind that it was within the bounds of possibility that this was a case of eversion of the bladder, although I had never heard of such an accident occurring to an adult; and, in view of the disastrous consequences of removing what might prove a portion of the wall of the bladder, I determined to ascertain, if possible, the real state of matters. Dr. Yates having made his appearance at this juncture, I communicated to him my suspicions, and, with his assistance, put our patient under the influence of chloroform. I then proceeded to pass my finger along the urethra by the side of the pedicle of the tumour, which I did without much difficulty, the urethra proving to be unusually large and dilatable. I found that the pedicle arose from the posterior wall of the bladder, in a manner that

strongly confirmed my impression that the case was one of eversion, and Dr. Yates having arrived at the same conclusion, we resolved to reduce the tumour. This I did after carefully removing the phosphatic incrustations, and followed it into the bladder with my finger, with which I carefully explored the surface from which I had just previously found the pedicle to arise. I found no trace of any tumour or pedicle of any kind whatever on any part of the interior of the bladder.

"A full opiate was then administered, and the patient directed to remain in bed. I am enabled to say, from information kindly supplied to me by Dr. Yates, that the cystitis rapidly disappeared, and she had no threatening of recurrence of the accident, and that she became perfectly well, and has so remained till this day.

"This case is, so far as I have been able to ascertain, perfectly unique, in so far as adults are concerned, although it is known as a rare accident in young children. I have endeavoured to describe it fully enough to enable those who read to judge from the evidence before them of the accuracy of our diagnosis. The theory I have formed is a simple one, suggested by the facts—namely, that phosphatic deposit having taken place on a portion of the inner surface of the bladder, acute cystitis was set up as a consequence; that the natural effort to extrude this foreign and irritating body, during the excessive straining which accompanies micturition in acute cystitis, was favoured by the existence of an unusually large and dilatable urethra, and produced the remarkable accident detailed above."

Primary Tuberculosis of the Female Uro-Genital Organs.

Klebs says that tuberculosis of the mucous membrane of the bladder is very rare, and occurs exclusively in the male. Dr. BARRY, however, relates (*Hospitals-tidende*, 36, 1874) a case occurring in Prof. Brande's division of the General Hospital of Copenhagen, which he believes is an exception to this rule.

The patient was a woman twenty-two years of age, with whom menstruation had commenced one year previously. Seven months before her admission into the hospital, she had pains in her back in the morning; shortly afterwards she was obliged to urinate frequently, and this act was accompanied by cutting pains in the urethra and over the symphysis pubis. At first there were no chest symptoms and the digestion was good. The urine was light, cloudy and offensive, slightly alkaline, and contained a little albumen, but no blood. The temperature increased gradually, and chest symptoms became somewhat pronounced. Colicky pains then occurred in the course of the right ureter, she became emaciated, and her appearance was more and more cachectic. Finally she had a severe cough and her ankles became œdematous. The post-mortem examination showed that in the duodenum there were two perforations which communicated with the right ureter. The ureter was about an inch in diameter for its whole length. The right kidney was very much enlarged, and had undergone what he regarded as tuberculous degeneration. There was only a little of the cortical substance remaining. The cavity was large and was filled with cheesy and purulent matter. The ureter had also undergone the same process of degeneration. At its lower end a large lump of caseous substance projected into the bladder. The mucous membrane of the latter had also participated, throughout its entire extent, in the same form of degeneration as the other organs. The left ureter was normal, except at its entrance into the bladder, where the mucous membrane was thickened. The lacunæ of the vaginal mucous membrane were the seat of numerous small rosette-shaped ulcerations about the size of a pin's head.—*Med. Record*, Jan. 16, 1875.

Partial Exsection of both Upper Jaws for Enchondroma.

Dr. PORTER reported to the Boston Society for Medical Improvement (*Boston Med. and Surg. Journ.*, Jan. 7, 1875) the following interesting case of enchondroma of the upper jaw. The patient, a gentleman aged fifty-one, of

excellent health, first noticed, nine years ago, a congested condition around the two central incisors of the upper jaw. These were "pivot" teeth, inserted twenty years before, and as they often became loose, he had been in the habit of replacing the pivots by the ends of matches. There finally resulted a necrosis of the alveolar process around these teeth, which gradually exfoliated. Soon a defined tumour commenced in the above locality, which has been growing for three years. It has been for the most part painless, but has doubled in size within six months. The patient's family history shows no record of tumour.

The tumour now involves the upper alveolar arch nearly symmetrically on both sides, from the first molar tooth on one side, to the corresponding tooth on the opposite side, extending nearly up to the infra-orbital foramina, pushing upwards and forwards the nose and upper lip, producing a very considerable deformity.

The operation for the removal of the growth was performed with ether. A Y-shaped incision was first made, the long arm of the Y cutting through the median line of the lip and the short arms extending one into each nostril. The coronary artery was controlled by a deep temporary suture in each flap. The soft parts on both sides were then dissected up as high as the level of the infra-orbital foramen, and backwards to the tuberosity of the superior maxilla. The hemorrhage was readily controlled by sponges stuffed into the wound. The second molar tooth on each side was then drawn, the mucous membrane covering the hard palate cut transversely, and the alveolar process and hard palate sawed through from side to side, and upwards quite into the antra. The anterior wall of the antrum and the nasal process on each side were cut through by a few quick strokes with mallet and chisel, the septum nasi severed at the union with the palate process, and the tumour easily depressed and removed entire. A number of large vessels required ligature, though much less blood was lost than would be supposed from the extensive laceration of the soft parts. The wound was brought together by sutures. The pulse remained good throughout.

The tumour, examined by Dr. R. H. Fitz, proved to be enchondroma. The patient made a rapid convalescence, and returned home on the eighth day after the operation.

In four months from the first operation, he noticed a return of the growth on each side of the nose, and when seen two months later, the tumour of the right side was about the size of an English walnut, involving the nasal process of the superior maxilla; that of the left side was similarly situated, but less in extent and size, being as large as a chestnut.

Before the operation for the removal of the tumour was commenced, the patient was etherized and tracheotomy was done. Sponges were then introduced into the pharynx to prevent bleeding into the throat. As in the first operation, a Y-shaped incision was made through the middle of the lip upwards into each nostril. The cheeks were freely dissected up on the right side as high as the inner commissure of the eyelids, and on the left to a level with the floor of the orbit. The bony attachments were then cut with chisel and mallet, the whole nasal process being removed on the right side, and nearly the whole on the left. The wound was closed as before. The tracheotomy-tube was left in for a few hours, until all bleeding had ceased, when it was removed and the wound was closed. The patient rallied well from the operation, and made a more rapid recovery than on the first occasion, returning home on the seventh day. The tumours, examined by Dr. Fitz, were like the first, but richer in cells.

Dr. Porter said he wished to call attention to but one practical point in the first operation, and that was the small extent of the incision. The Y-shape of the cut through the median line of the lip, into each nostril, made the circumference of the nostril available and gave an abundance of room for the operation; the resulting cicatrix was very small and entirely covered by the mustache. This method of incision, moreover, results in no paralysis of any of the facial muscles. In the second operation, tracheotomy beforehand did

away with the constant sponging of the throat consequent upon the character of the operation, and also with the danger from blood in the trachea.

Euchondroma of the jaws is a rare disease, and particularly so that of the upper jaw. In the *Dublin Quarterly Journal of Medical Science* for November, 1857, Dr. Oscar Heyfelder, of Munich, reports only eight cases of enchondroma out of four hundred and fifty cases of diseases of the superior maxilla. Dr. Porter can find but few reported cases of partial or total excision of both upper jaws. Partial resection of both bones was done in 1824 by Roger, afterwards by Liston and Dupuytren; but the first total removal of both upper jaws was done by Dr. J. F. Heyfelder, of Munich, who did it three times in 1844, and afterwards in 1850 and 1852.

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Ununited Fracture of the Forearm, with Deficiency of the Ulna, treated successfully by Excision and the Wire Suture.

Mr. THOMAS ANNANDALE, Surgeon to the Edinburgh Royal Infirmary, reports (*British Medical Journal*, Jan. 9, 1875) the following interesting case:—

R. K., aged 29, was admitted into my wards on June 24th, 1873, suffering from an ununited fracture of the bones of the forearm. About six months before his admission, his forearm had been severely injured by machinery. Both bones were fractured, and a large lacerated wound was caused by the accident. He was taken to a provincial hospital, and carefully treated for several months. About three months after the accident, a large piece of bone (a portion of the ulna) gradually loosened, and was removed. Three weeks after this the wound was healed, but the bones had not united properly.

When the arm was examined, a large cicatrix was noticed over the middle third of the bones of the forearm; it was adherent to the ulna for a short distance, but was otherwise free. Both bones were movable at the junction of their middle and lower thirds, but the radius less so than the ulna. The ulna was not only quite ununited, but was deficient for about one inch at the seat of fracture, the result, no doubt, of the necrosis which had followed the injury. The fractured ends of the ulna were displaced towards, and adherent to, the radius. Pronation and supination could not be performed, and the arm was also weak, and, in consequence, useless.

On June 27th, I performed the following operation, with the hope of making the arm more useful. An incision, about three inches long, was made over the dorsal aspect of the ulna, so as to expose the fractured portion of this bone. It was then found that the fractured ends were rounded off and atrophied, and united to one another and to the radius by some strong fibrous texture. These ends were also displaced inwards, and there was fully an interval of an inch between them, owing to the deficiency of the bone.

About a quarter of an inch was now sawn off the ends of the ulna; and, as it was quite evident that these ends could not be brought together, a second incision was made over the dorsal aspect of the radius, and a portion of this bone, including the partially united part, was also sawn off. By thus shortening the radius to a sufficient extent, the ends of the ulna were allowed to meet, the adhesions connecting them to the former bone having been divided. The ends of both bones were then drilled and secured with strong silver wire. The edges of the wounds being brought together with a few carbolized silk sutures, antiseptic muslin was applied in the usual way, and the arm adjusted on a splint. On the 3d of July, it is noted that the patient has progressed favourably since the operation, and the wound is healing well. On the 8th of July, the wire through the ends of the ulna, being a little loose, was twisted more firmly. The patient's progress continues good.

On the 3d of August, the wounds were quite superficial, and the wire through the ends of the radius, being quite loose, was removed. On the 13th of August, the wire was removed from the ulna; and on the 29th the patient left the hospital, the wounds being almost healed.

Six weeks after this he returned to show himself, when it was found that the bones were firmly united. The forearm, to a limited extent, could be pronated

and supinated; but these and the other movements of the arm were steadily improving, and the limb could already be used in many ways, its strength being greatly improved since the operation.

Remarks.—For the successful treatment of this case, it was necessary to overcome two principal obstacles. These were: (1) the deficiency of the ulna; (2) the displacement inwards of the ends of the ulna, and their adhesion to the radius. In addition, the large cicatrix forming the chief covering of soft parts over the injured bones made operative interference more difficult than if these coverings had been sound. The first of these obstacles was successfully overcome by removing a portion of the radius, so as to allow the ends of both bones to be brought together. The removal of this portion of bone, by diminishing the amount of the osseous element of the forearm, also permitted the contraction of the wounds in the soft parts to take place satisfactorily. The second obstacle was successfully combated by dividing the adhesions, drilling the ends of both bones, and securing them with strong wire.

This method of securing the fractured ends would, I believe, prove very valuable in many cases of recent compound fracture of the bones of the forearm. It is a most efficient means of preventing their inward displacement, and therefore assists much in preventing also the union of the radius and ulna to one another, a condition not easy to overcome in this class of injury. The wire which I employ in this and other operations of the kind is silver, of the thickness of that usually employed to secure the corks of soda-water bottles. The instrument used for drilling the bone is a joiner's common small prickler. Having tried more complicated instruments for this purpose, I have now a decided preference for the more simple tool, which I always find to be most efficient.

— *Fracture of the Neck of the Femur, simulating Impaction.*

Dr. H. J. BIGELOW showed the specimen, and reported the case to the Boston Society for Medical Improvement (*Boston Med. and Surg. Journ.*, Jan. 7, 1875), which, he said, was interesting as showing how a fracture near the head of the femur might present the signs of an impacted fracture of the base of the neck, and so promise a bony union, which was unlikely to occur. The patient, a middle aged woman, was in some way injured by a horse-car. She was at first helped into the car, and after riding some distance, and finding herself very lame, was sent home in a carriage and put to bed. Dr. Bigelow, when he saw her in consultation, three weeks afterwards, made a careful examination. He found that the trochanter rotated in the socket, in the arc of a circle which had the head of the femur for a centre; there was no crepitus, slight eversion, and a shortening of an inch. These symptoms pointed to posterior impacted fracture through the base of the cervix. The only other injury which was likely to produce these signs was the rare one of impacted fracture of the head, for the differential diagnosis between which and impacted fracture through the base of the neck there is no guide except its comparative rarity. There was a callous prominence behind the trochanter, which last was an inch too near the spinous process of the ilium.

The prognosis in this case seemed on the whole favourable, although the patient was a feeble one. She got along quite comfortably, and was, at her own request, helped up every day into a chair to vary the depressing effect of confinement to bed. She was thus able to get out of bed every day, from the first day of the accident. Towards the end of the sixth week, however, she sank and died.

The autopsy showed that the fracture was not through the base of the neck, but through the neck itself, close to the head, and that the fragments were "rabbeted" together. There was motion enough to have worn away the thin walls of the neck, and to show that any future bony union, had the patient lived, was not to be hoped for. In this respect it differed from Dr. Gay's case of impacted fracture into the head, where the patient, on the day of his death from pneumonia, a week or two after the accident, lifted up his leg, and said that as far as that went he was getting on well. Had that man lived, he would undoubtedly have had bony union, and a serviceable leg.

The rabbeting of the fragments together was shown very well in the present specimen. It was due to a conical mass of comparatively dense bony tissue projecting from the head fragment, which was driven into the loose cancellated structure of the portion of the neck on the shaft fragment. This dovetailing, although sufficient, while the fragments were surrounded by the capsule and soft parts, to prevent crepitus, and to cause the neck and head to rotate in the socket as a whole, did not prevent such attrition of the fragments as would hinder bony union.

Treatment of Aneurism and Wounds of Arteries.

Prof. VERNEUIL recently read an interesting paper upon this subject at the Paris Société de Chirurgie (since published in the *Gazette des Hôpitaux*, October 8 and preceding), founded on seven cases that have come under his care. Of these, four were examples of spontaneous popliteal aneurism, one a case of femoral supervening on contusion, one a radial occurring after a wound, and one a palmar arising amidst a purulent collection. In five the aneurisms were circumscribed, and in two diffused. The subjects were all males, and, with the exception of one, in good health and the prime of life. The result was successful in five cases (two of the popliteal, in the femoral, the palmar, and the radial), and fatal in two. The duration of the treatment (except for the radial) was prolonged, requiring a mean of two months and a half. In three of the instances the patients cured themselves, almost without the direct concurrence of the surgeon, who only gave his instructions and surveillance. The part which the patience, address, and intelligence of the patient may play in such cases is well known, and forms a resource which should never be disdained. In one of the two popliteal aneurisms which proved fatal there was gangrene of the leg caused by emboli, and followed by purulent infection; in the other there was arthritis of the knee and phlegmon of the thigh. These results in both cases M. Verneuil attributes to the treatment employed, and thinks that they might have been avoided.

Passing in review the different procedures that were employed in the seven cases, he states that *compression* was at once resorted to in six cases, succeeding in two and abandoned in four. It cured unaided the radial, and, in conjunction with flexion and extension of the leg, one of the popliteals. In two cases it was abandoned, in consequence of the great pain it speedily caused, and of its failing to arrest or even moderate the progress of the affection. Although in the present series of cases compression has proved of so little advantage, M. Verneuil has in other cases achieved brilliant success in its employment; but these failures should tend to moderate the enthusiasm which has of late regarded it as a panacea. *Flexion* had to be abandoned in two cases because it only arrested incompletely, and that with great trouble, the pulsations of the aneurism. In two other cases it furnished excellent results, as it alone was required to effect the cure in one of these, and powerfully aided the effects of compression in the other. It has the advantage of allowing the patient to quit his bed and walk with crutches without compromising the result. *Injection of perchloride of iron* was performed with complete success for a small palmar aneurism, but failed when tried in a popliteal; and the method seems suitable only for small aneurisms situated in regions where the detachment of a clot would not be of much consequence owing to the abundant collateral circulation. Like most French surgeons, M. Verneuil has had very limited experience in the use of the *ligature* in aneurism; but in the case of popliteal aneurism in which he employed it in the present series it succeeded promptly and speedily, care having been taken not to attempt union by first intention. *Amputation* is an extreme measure, which at the present day should hardly be deemed as one of the methods of treating aneurism. Still, it is indicated as a last, although precarious, resource when certain complications occur, such as gangrene, diffuse phlegmon, purulent arthritis, bursting of the sac, hemorrhage, etc.; and M. Verneuil now regrets that in two of his cases in which precise indications were present he allowed the opportune time to pass by without venturing upon the operation.

M. Verneuil thus summed up his opinions on the treatment of wounds of the palmar arch: 1. In recent wounds compression is usually inefficacious, and sometimes dangerous in consequence of the phlegmonous inflammation to which it gives rise. 2. The application of the ligature within the wound is generally easy, requiring patience rather than dexterity; and it is usually followed by the best results, simplifying rather than aggravating the palmar wound. 3. When the wound is old and attended with repeated secondary hemorrhages and inflammations at the seat of injury and its vicinity, with tumefaction and suppuration, direct compression is inapplicable, insupportable, and useless, while indirect compression is usually useless. 4. While the ligature of the two ends of the vessel in the wound is a laborious and really difficult operation, it can usually be effected; and the fears of friability of the arteries is illusory. The necessary incisions, providing that they are made with prudence and with proper anatomical knowledge, are not so mischievous with regard to the future functions of the hand as they have been said to be, while they modify in a favourable manner the course and termination of the palmar phlegmon. This form of ligature puts an end to the hemorrhage more effectually than any other means. 5. The indirect ligature of the arteries of the forearm is of easy application, but rarely successful. 6. Ligatures of the axillary or brachial, besides that they are neither so easy nor absolutely innocuous, are far from being a certain means of arresting hemorrhage and of putting an end to the inflammatory complications of the wound.—*Med. Times and Gaz.*, Oct. 24, 1874.

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On the Cure of Popliteal Aneurism by Digital Compression.

In *Lo Sperimentale* for November, 1874, we have an account by Dr. PIZZORNO of a case of popliteal aneurism under the care of Dr. Corradi, successfully treated by digital pressure carried out by relays of assistants (four to the hour) during the space of three days. The points to which the author calls attention in the case are these: 1. The aneurism occurred in a perfectly healthy man about thirty-eight years of age, who had never had syphilis, and who was not aware of having received any injury—the only probable exciting cause being prolonged exposure of the lower extremities to wet, while he was laying the foundations of some houses. 2. The injection of ergotine into the neighbourhood of the tumour entirely relieved the pain caused by the aneurism itself, and, as he believes, much facilitated the treatment; while the pain caused by the compression was not at all relieved by the ergotine, but yielded readily to morphia. 3. The cure by digital pressure was aided and facilitated by pressure made directly on the aneurism with an air-ball bandaged into the ham in the bent position.—*Lond. Med. Record*, Jan. 3, 1875.

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An Easy Method of removing a part of the Inferior Dental Nerve within the Lower Jaw.

Dr. JOHN S. HODGEN reports (*St. Louis Med. and Surg. Journ.*, Jan. 1875) the following case and method of operation:—

"In July, 1874, Mr. B., aged 62, of robust constitution, having had uniform good health, presented himself, complaining of intense paroxysmal attacks of neuralgia. The site of pain was the gums, teeth, and bone of the right inferior maxilla. Some of the back teeth had been drawn years before for the relief of toothache, and others in front, with the hope of relieving the pain of which he now complained. About two years before he called on me he first suffered with this paroxysmal pain—the seizures occurring every few minutes, and so intense that he could not sleep or work during their continuance, but would express the intensest suffering by facial contortions. When in the cold air he suffered comparatively little, but warm air, or the heat radiated from a stove, or warm liquids in the mouth, increased the pain very greatly.

"There could be found no evidence of suffering at the termination of any of the other branches of the fifth nerve; the upper part of the face, the eye, and the soft parts of the inner side of the lower jaw supplied by the mylo-hyoid nerve seemed not affected.

"I determined to cut the inferior dental nerve.

"I first thought of cutting through the little alveolar process left at the back part of the body of the jaw, thus reaching the canal in which the nerve is lodged, but concluded that it could be better done, and further back, with a dentist's drill.

"This little drill is made to revolve with great rapidity by a system of pulleys, cuts rapidly and accurately.

"With a strong knife I made a cut one inch long, beginning on the inner side of the base of projecting ridge of the coronoid process, and running forward on the body of the bone to about the former site of the last molar tooth.

"The point of the drill was entered just in front of the base of the coronoid process, and directed downward, backward, and a little outward; in a few seconds, the drill had penetrated the canal, as was known by the absence of resistance, the sudden twinge of pain, and the flow of blood.

"The small drill was then replaced by a globular burr one-eighth of an inch in diameter, with this the opening was enlarged until the nerve was again touched; the burr was now carried outward and inward, and then toward the posterior dental foramen; this last gave intense pain. Now the burr could be made to touch every part of the wall of the space without pain; the blood flowed pretty freely when the canal was first opened, and was still flowing—a little cotton pressed into the opening in the bone, the bleeding at once ceased, and we left the patient comfortable and happy.

"For several days he suffered from nothing but soreness at the point of operation; two weeks later he called at my office suffering a little with the old pain; this, however, disappeared entirely, so that on the 21st of November, when we called on him to learn the finale, he was quite well, and has much improved in flesh.

"The object of this paper is not to add another to the many cases already detailed in which this painful affection, due to disturbances along the course of nerves, has been relieved by severing the nerve on the central side of the disease, but to call the attention of the profession to the great ease and certainty with which the severance may be accomplished. I am not aware that this method has been practised before."

Midwifery and Gynæcology.

The Value of Quinia in accelerating Parturition.

Dr. O. B. STAFFORD, of New Boston, Ill., reports (*New York Med. Journ.*, Feb. 1875) several cases illustrating the value of quinia in accelerating parturition. In his first case his patient had been in labour for twenty-four hours, but, for two hours previous to his seeing her, had been without any pain whatever. Found a well-dilated bag of waters presenting properly, but everything pertaining to active labour positively quiet. He gave her eight grains of sulphate of quinia at one dose, and in twenty minutes strong expulsive labour-pains set in, and in one hour labour was terminated.

In another case the patient had been in labour about eighteen hours, but, aside from presentation of bag of waters and dilatation of os uteri to the size of a shilling, no progress had been made. After waiting two hours, and finding that manipulation about the os failed to produce any uterine contraction, Dr. Stafford gave her about seven grains of quinia. In thirty minutes patient complained of strong bearing-down pain. Uterine walls hardened, dilatation was completed, and in one hour and a half delivery was completed.

One very remarkable feature, Dr. Stafford finds, presents itself in the administration of quinia in obstetrical cases. It does not produce that *spasmodic* uterine contraction which, in his hands at least, so frequently follows the giving

of ergot; also an unusual freedom from flooding; the entire placental mass is dislodged with but little difficulty, the uterus contracts firmly, presenting that hard, woody feeling which is so pleasing to the careful obstetrician.

In all his cases the mothers convalesced well. General nervous prostration did not ensue to so great an extent as we frequently observe. Lochial discharges were normal, and there was a marked freedom from malarial difficulties, puerperal fever, chills, etc., which are so prevalent in the Mississippi Valley.

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On the Absence of the Fœtal Pulse during Extraction of the Feet.

Most accoucheurs admit that a child, the pulsations of whose heart had been stopped during extraction, cannot be brought to life again in the cases in which this arrest of the pulse beats has been ascertained by repeated examination. Some even advise that all efforts at extraction should then be given up, and that delivery should be left to nature, convinced that the pains will then expel the after coming head in a manner less dangerous to the mother than when the operator, even if he be ever so able, continues his attempts at extraction.

Prof. DOHRN, of Marburg (*Archives de Tocologie*, Oct. 1874) has been for some time disposed to reject this mode of procedure, when latterly two recent cases have again taught him that during the disengagement of the feet, a suppression of the pulse, prolonged even for a long time, does not for a certainty prove fatal to the infant. The two observations are as follows:—

1. A woman delivered for the second time with a flattened and generally contracted pelvis. Complete presentation of the feet with prolapse of the funis. Rupture of the membranes, with dilatation of the os. Almost immediately falling of the feet and funis into the vagina.

The fœtal pulse, which some instants before the rupture of the membranes beat 160 times in the minute, fell half an hour after to 120, and at the same time there was a flow of meconium. I decided on extracting. This was easily done as far as the shoulders, but I could not bring down the arms which were raised. During my fruitless attempts to disengage the arms the pulse disappeared at the funis, as also did the pulsation of the heart, which, up to then, one could see and feel on the part of the thorax which was disengaged. Full two minutes elapsed whilst palpitation was being repeated in the cardiac region, and the introduction of the points of the fingers into the intercostal space permitted the determination of the disappearance of the pulsation, until then appreciable. I considered the infant as dead, and faithful to my principles I resolved to abstain from further attempts at extraction, so as not uselessly by violent traction to wound the soft parts of the mother.

At this moment the child, whose pulse could not be felt, and who was half-born, made several inspiratory movements, to the great astonishment of the assistants. I immediately renewed attempts at extraction, and succeeded in a few minutes in disengaging the arms and the head. The child, a girl, after a quarter of an hour's care, was reanimated in a warm bath. The mother and child both went out well at the end of a fortnight.

2. A woman delivered for the third time; flat pelvis, generally contracted. The two previous confinements of dead children necessitated application of the forceps and perforation. The woman came to me to have premature labour induced.

Delivery took place in the thirty-seventh week. After a very slow period of dilatation, at the moment of rupture of the membranes, the two feet and the cord prolapsed, the dilatation of the orifice being but six centimetres. As the pulsations of the cord were rapidly slackening, I left the delivery to nature. But after the disengagement of the hips, the descent of the child was suspended, and in spite of strong external pressure exercised by one of the assistants they remained as they were. The first attempt to disengage the raised arms was fruitless, and having immediately afterwards practised an examination of the cord and cardiac region they escaped, I could not find any trace of pulsation. A second attempt answered no better, and so three minutes elapsed during

which it was impossible, even with the greatest care, to feel any cardiac pulsation in the half-born fœtus. I had here doubts as to the possibility of recalling the infant to life.

Then a strong pain made the shoulders and head descend so low that disengagement by means of the hands appeared possible. Though I had but little hope of the child, I finished the extraction, which was rapidly done. The child presented no signs of life when born. I placed it in a hot bath, and after I had put it in half a minute the heart began to beat again at the rate of forty-eight pulsations a minute. Whilst the heart had but this feeble number of pulsations, a profound inspiration took place. The heart's beats paused from time to time, but, what struck me very much, did not recover their normal frequency so soon as the efforts at respiration. It was not till the end of half an hour's care that the frequency of the inspiratory and pulse movements attained their normal figure. The child, a boy, revived and was saved.

These cases are similar in their essential points. In both there were narrow pelves, cessation of the pulse at the moment when the after-coming head descended into the pelvis, and prolonged absence of the beats whilst the head was arrested in the true pelvis. I believe the same explanation applies to the two cases.

If there had been a cause of arrest of the heart's beat caused by asphyxia, there would have been difficulty in restoring the children to life. For my part it has never happened to me to bring a child to life again with such a cessation of the heart's beat of such long duration when it was caused by asphyxia.

But more than this, the course of these cases is not at all that which one is accustomed to meet with in asphyxia. In the second case the child was full of life a little while before the cessation of the heart's beat, and this cessation was produced when the head, by aid of traction below and pressure above, escaped from the pelvis. Immersion in a warm bath brought back the heart's beats, but the respiration established itself still more quickly. In asphyxia, as we know, the reverse is habitually the case.

This arrest of the beats of the heart in these two cases was, in my opinion, caused by compression of the brain and irritation of the pneumogastric.

Although Frankenhaufen (*Mon. für Geburt*, Bd. xv. Heft 5, 1860) first gave out the idea that compression of the head might slacken the child's pulse, this opinion was hardly taken into consideration, although already a number of facts had been collected which rendered the connection between these phenomena very probable. (Dissertation published under the direction of Roser, "On the Slackening of the Pulse from Compression of the Brain," by C. H. Lengerkes, Marburg, 1856.) But since the works of Leyden (Virchow's *Archiv*, xxxvii. Heft 4) and of Schwartz (Virchow's *Archiv*, Bd. i. Heft 3) on these phenomena, the preceding explanation seems perfectly well grounded. Leyden has shown in the clearest manner that the compression of the brain, which slackens the heart's beats, may also completely arrest them, and that this action is produced by the help of the pneumogastric. It results, moreover, from his experiences, that the activity of the heart is constantly altered by compression of the brain, the same as the respiration, and like Schwartz, he has found that cessation of the compression permits the activity of the heart to be re-produced anew. My clinical observations accord with these experiments.

But extraction in breech presentations gives rise to compression of the brain, especially in contracted pelvis, and I suspect that one has often enough had opportunity of verifying this fact if one had paid more attention to the matter during extraction. I would therefore ask scientific men to pay attention whether in analogous cases, given a hindrance to progression of the head with compression of it, slacking and entire arrest of the heart's beats are not observable.

It is the way of looking at the cause of slacking of the pulse, which must direct us to the treatment of these cases. Admitting that slacking and arrest of the pulse are due to compression of the brain, we must then hasten, by the most rapid extraction of the head possible, to protect this latter from compression, and one may then entertain the hope of saving the child. But if, on the contrary, the arrest of the heart's beats appears to be due to asphyxia, we can-

not hope to save the child's life, and nothing is gained in the interests of the mother, at least usually, by continuing attempts at extraction.—*Obstetrical Journ. of Great Britain and Ireland*, Jan. 1875.

Cæsarean Section.

At the Lille Congress of the French Association for the Advancement of Science (*Gaz. Méd. de Paris*, Oct. 3, 1874), Dr. CAZIN (de Boulogne) brought forward a case of pregnancy complicated by uterine fibroids in which the Cæsarean section was performed successfully for both mother and child. Uterine fibromata cause mortality of one in five during accouchement. Their presence has given rise to a great number of Cæsarean operations, which have all been followed by death. Most frequently the presentation is of the breech or side.

Dr. Cazin has had occasion to practise the Cæsarean operation in a case of this kind, and has had the good fortune to save mother and child. He operated on a woman, aged thirty-nine, in whom, towards the sixth month of pregnancy, fibroid tumours were recognized in the posterior and inferior wall of the uterus. Labour set in in the seventh month; after four days of pains, the waters ruptured and the hand escaped, the child still living; but as it could not be extracted either by forceps or by version, recourse was had to the Cæsarean operation. The most minute precautions were taken; there were hemorrhage and syncope, inertia of the uterus, distension of the belly to such a degree that it became necessary to puncture the bowel to give exit to gas; there was vesical paralysis and an abscess formed between the uterus and the abdominal wall. In spite of all these complications, the patient got well; and the child, baptized Cæsar, thrived well. This operation was done some months ago, but the author has ascertained that the fibroids are in process of diminution.—*Obstet. Journ. of Great Britain*, Jan. 1875.

Dr. J. CERF-MAYER, Surgeon in the French Navy (*Archives de Médecine Navale*, November, 1874), details from his practice at Brest a successful case of Cæsarean operation. E. L., aged 30, a primipara, married fifteen months, had arrived at her full period. She was deformed from rickets. Spinal curvature was great. The pelvis measured $1\frac{3}{4}$ inches. She was bow-legged. A median incision seven inches long was made from 1.2 inches below the umbilicus to 0.6 inch above the pubes. The uterus then presented, of violet hue. The amniotic fluid had been evacuated through the os previous to the first incision, and none escaped through the incision into the uterus. Every drop of blood was sponged away. The membranes being opened, a male child weighing seven pounds was extracted, and the placenta was removed by enucleation with the forefinger. A little effused blood was removed by means of sponges, and cold water was used as a styptic. A drainage-tube of a finger's breadth on a few loops was passed through the vagina and uterus, brought out at the incision, and fixed on the pubes, so as to facilitate the subsequent escape of pus or lochial discharges. No sutures were applied to the uterus itself, and six of silver wire were lightly drawn to close the external incision. The operation was performed under chloroform in a spacious apartment facing the south, and was completed in twenty-five minutes. The dressings were a fenestrated piece of cerated lint, covered with cold-water pledgets, and a lightly applied bandage. No hemorrhage followed, and micturition was not affected. On the sixth day, the drainage-tube was removed, and injections of carbolic acid in aromatic decoctions were begun for the cleansing of the vagina and the uterus, and ricineated collodion was applied frequently over the abdomen the next six or eight days, to diminish the intestinal inflammation. No symptoms of metria, of metro-peritonitis, or of hemorrhage, supervened. From the twelfth to the fifteenth day, she was able to take a few steps across her room; and on the thirteenth day she went out with her infant. The complications were as follows. On the sixth day, a large protrusion of hemorrhoids was treated by suppositories of belladonna in cocoa-butter. On the sixteenth day, diarrhœa appeared; and, during the following three days, there were symptoms of enteritis. Under the use of poppy fomentations, laudanum, and bismuth, diarrhœa had ceased on the twenty-first day, when phlegmasia dolens attacked the left leg. This was

treated with emollients, cotton-wadding, mercurial unction, and belladonna. The general treatment was, after the operation, thirty grains of ergot; and at night, forty-five grains of chloral hydrate, which was rejected. On the third day, a lavement of castor-oil brought away much flatus and very black solid *ieces*, after which the abdomen became supple. From the first day up to the seventh day, sulphate of quinia was administered daily in doses of twelve grains, and, after the seventh day, in decreasing doses through the next fifteen days. The diet was at first cold soups, with draughts of warm claret; and, in a later stage, nourishing and tonic food. Dr. Cerr-Mayer lays great stress on the advantage of spacious sanitary accommodation in all the capital operations, and on the steady administration of quinia. As to the mode of operating, he thinks that each case and every operator may require variations; but he doubts that the success will be much influenced by these, and believes that much more depends on the personal attentions of the operator during the operation and throughout the subsequent treatment of the patient.—*British Med. Journ.*, Jan. 23, 1875.

The Contagion of Puerperal Fever.

The contagious nature of puerperal fever, and the various ways in which it may be communicated, is a question of the greatest importance to both the profession and the public. A knowledge of what has been written on this point, and of the many interesting cases bearing on it, ought to be in the possession of every one who intends to practise midwifery, for without such knowledge he may unconsciously carry with him the contagion, and communicate it to those under his care; and even with such knowledge it may be, in some instances, impossible to avoid becoming the agent of this terrible disease. Puerperal fever is a term which embraces a number of diseases having different causes, symptoms, and anatomical lesions. One class of these maladies is that brought on in the puerperal woman by contact with the poison of an acute specific disease, as typhus or erysipelas. In these cases there can be no question of the contagious character of the affection, for instances are recorded in which the puerperal woman has been the means of communicating the original disease to a third person. Another class of cases is that which is due to absorption by the vagina of a poison introduced by the examining finger of the accoucheur. The poison in these cases may be the cadaveric or decomposing animal matter, such as the discharge from the generative organs of a patient suffering from puerperal fever; or it may be the contagion of an acute specific disease. There is a third class of diseases which is included under the term puerperal fever, which is generated within the body of the patient, the cause being decomposition and absorption of coagula or portions of the placenta retained in the uterus, or the breaking up and entrance into the circulation of a clot which has formed in the uterine vessels. The form of the disease depending on the introduction into the vagina or the formation within the body of a poison other than the acute specific contagion, is not contagious in the sense that typhus fever and erysipelas are, but it is certain that it is not unfrequently communicated by the intervention of a third person, that person being the medical attendant. Numerous instances are on record of outbreaks of puerperal fever in which all or almost all the cases occurred in the practice of one man. Dr. ARMSTRONG says that out of forty-three cases which occurred in Sunderland in 1813, forty happened in the practice of one surgeon and his assistant. Dr. GORDON observed, with reference to the epidemic which took place in Aberdeen in the year 1789-90, that the disease attacked such women only as were visited or delivered by a practitioner, or taken care of by a man who had previously attended patients affected with the same disorder. ROBERTSON states that from December 3, 1830, to January 4, 1831, a midwife attended thirty patients for a public charity; sixteen of these were attacked with puerperal fever, and they all died. In the same month 380 women were delivered by other midwives for that institution, but none of the 380 suffered in the smallest degree. Evidence of this kind might easily be multiplied, but we have said enough to show that the disease is in some cases contagious in the

sense typhus is, and that in all cases it is communicable by the accoucheur or midwife. And this is not to be wondered at, for we know how difficult—nay, how impossible, it is for some time to remove from the hands which have been engaged in making a post-mortem examination the odour of the cadaver, even by the most abundant ablutions and the careful use of disinfectants. We know, also, what a small quantity of septic poison is sufficient to engender a fatal disease even in a healthy person; but in the puerperal woman the poison acts at a great advantage, because her system is in a more or less exhausted state after the parturient efforts, and it is engaged in throwing off waste products—the wasting from severe muscular action and from the involution going on in the uterus. Besides, the poison, when communicated by the examining finger, is introduced to a part capable of absorbing rapidly, and one which, at that time, is wounded, bruised, and sore from the mechanical violence to which it has been subjected. Under these circumstances the patient is peculiarly susceptible to the slightest contagion or inoculation. Again, practitioners of midwifery find it their duty frequently, during the first few days after labour, to examine the vaginal discharge. In this manner their hands become more or less tainted; and, if the patient be suffering from puerperal fever, this taint is sufficient, even after the most careful washing and use of disinfectants, to communicate the disease to a patient examined soon after. With midwives it is far worse, for generally they act both as nurse and midwife to the poor patients on whom they attend; and thus they have daily to perform the part of nurses, and consequently have their hands, however careful they may be, always tainted with discharge. Add to this the slightest carelessness in the use of soap and water and disinfectants, and there is at once formed a propagator of disease who carries death wherever she goes. This double function of midwives is probably the reason that, in recent outbreaks, they have played a more prominent part than professional men. What, then, are the duties of the medical practitioner in whose practice a case of puerperal fever has occurred? He may change his clothes, he may take any number of baths, he may use all sorts of disinfectants, and still the fatal poison may hang about him, and he may be the bearer of it. Under these circumstances he should refrain from practising midwifery for a season. It would be wantonly wicked in us were we to speak hesitatingly when such issues are at stake. The danger to the public arising from the non-observance of the precautions above named are incalculable, as we have seen in the outbreak in the neighbourhood of the Wandsworth-road and at Coventry, and whatever sacrifice the medical man may have to make in carrying out the precautions named, we unhesitatingly say he should make it. In the majority of cases, however, the sacrifice to be made would be very light indeed. Three years ago an outbreak of puerperal fever took place in a provincial town of considerable size. On investigation it was found that all the cases had occurred in the practice of one surgeon and one midwife. The members of the profession located in the town met and requested the gentleman in question to refrain from practising midwifery for one month, and at the same time agreed to attend his cases for him. The midwife was likewise requested not to attend cases for a similar period. This was agreed to, and no new cases occurred after that date. This illustrates well the line of conduct that should be adopted by the profession in any town where this terrible disease may happen to appear. The unfortunate practitioner in whose practice the case has occurred should bring it before the profession, and should cease from attending midwifery for a time. On the other hand, his professional brethren should help him through his difficulty, and make his loss as small as possible by attending his cases for him during the period of his abstinence.—*Lancet*, Jan. 23, 1875.

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On the Prevention of Mammary Abscesses by the Application of the Principle of Rest.

Dr. W. BATHURST WOODMAN read a paper on this subject before the Obstetrical Society of London (*Med. Times and Gaz.*, Jan. 16, 1875). He had been struck with the rarity of mammary abscesses in animals, notwithstanding the

forced abstinence from suckling which cats and dogs undergo from the drowning of their progeny, and in spite of the great distension of the udders of cows, mares, and other animals when driven to market, or for other reasons separated from their young. Acting upon this suggestion, he carefully abstained from those manipulations and questionable "gentle" frictions which have so long been customary in such cases, and with the most satisfactory results. Where an abscess was threatening, in place of employing liniments he enjoined perfect rest, the avoidance of all frictions and rough handling, and of suckling for a time—if possible from both breasts, but at all events from the most implicated; the horizontal position, careful application of strips of isinglass, soap, or lead plaster, or of an air-cushion with a hole in the centre, or of bandages taking their purchase from the opposite shoulder. In addition to these measures he employed preparations of opium, belladonna, or chloroform, applied in compresses, or ice, moist warmth, and leeches; the local congestion being also relieved by diaphoretics, diuretics, and aperients—belladonna, iodide of potassium, and sedatives being given if requisite. Illustrative cases of this method of treatment were given, exemplifying its advantages.

Dr. BARNES observed that the principle of rest had long been applied to the treatment of inflammation of the breast. He himself had learned the value of it from Trousseau, when a student in Paris thirty years ago. That admirable physician taught and illustrated it with great earnestness. He placed the breast at perfect rest by carrying straps of leather spread with *emplâtre de vigo* all around it, so as to lift it well up and exert constant support on the vessels. Thus œdema was prevented, and engorgement soon subsided. It must, however, be remembered that this form of pressure was ill borne in the first inflammatory stage. It was chiefly serviceable when suppuration had taken place and the abscess had been opened; the sac then rapidly closed. In the earlier stage he had seen leeches do excellent service. The pressure then must be lighter.

Dr. ASHBURTON THOMPSON said there were two modes of treatment not referred to in this paper—the administration of tincture of aconite, and total abstinence from fluids during the necessary number of days. By giving minim doses of aconite every hour he had succeeded in cutting short inflammations of the breast which there was no doubt would otherwise have run on to suppuration very frequently; indeed, in three cases out of four. In cases of stillbirth he had hitherto found abstinence from fluids sufficient in every case to avoid every kind of mammary disturbance. Ice was allowed in moderate quantity, and no other fluid, from the time of delivery until the fourth or fifth day, when the breasts generally return to their normal state of quiescence. He had had two cases recently in which this method of treatment had been perfectly successful. The deprivation of fluid caused but little distress.

Dr. BRAXTON HICKS thought the principle of rest had been gradually coming upon us for years, friction only being resorted to among the poor and ill-educated. Surgery at the present day was all tending to quietude. Manipulations only led to suppuration, and often produced the extra amount of stimulation required to set it up.

Dr. MURRAY observed that the application of belladonna plaster was of great service, keeping the arm at the same time fastened to the side. In some instances a slight process of friction upwards was productive of good.

Dr. MATTHEWS, whilst heartily assenting to Dr. Woodman's views, thought that the public also had largely endorsed his practice, since he had observed that it was a very common proceeding to apply a large lead plaster (spread upon leather) to the breast in cases where it becomes necessary to get rid of the milk; this of course rendered friction and all meddling impossible. He had found two large and suitable handkerchiefs suitably applied—one by way of sling across the neck under the breast, the other in exactly the reverse way, over the breast, and tied around the body so as to include the breast between them, interposing a large pad of cotton-wool—to constitute a very efficient mode of applying pressure.

Dr. EDIS remarked that the chief thing to be remembered was to limit the supplies, to act on the bowels, and to insure perfect rest to the mammæ. He

was accustomed to order a belladonna plaster to be applied to the mammary region within twenty-four hours of delivery, thus exercising pressure as well as arresting the secretion of milk. Abstinence from fluids and great moderation in diet were enjoined for the first few days, an aperient mixture of sulphate of magnesia and iodide of potassium being given twice or thrice daily to relieve the bowels. The shoulders should be raised, and the arms kept perfectly quiet; the upper part of the chest being only lightly covered; any friction or drawing of the breasts being strictly prohibited. Where this method had been adopted he had never seen a single instance of mammary abscess. An evaporating lotion continuously applied to the mammae was in some instances sufficient to prevent the secretion of milk; but the pressure obtained from the plaster was of great service, and effectually prevented the employment of any friction.

Treatment of Puerperal Mastitis.

Dr. HELBY, of Bantzen, writing on this subject (*Berlin Klin. Woch.*, No. 39, 1874), recommends the application of warm compresses to the inflamed breast, in the place of the usually employed linseed-meal or bread poultices. The compress is to be applied as follows: A piece of lint, four folds thick, sufficiently large to cover the inflamed part, is steeped in warm water (78° to 86° F.), and then squeezed almost dry; this is placed on the breast, and over it a piece of gutta-percha or caoutchouc protective, larger than the lint, and the whole is covered with a quantity of cotton-wool and bandage. The dressing can be kept on from five to six hours, and the inflamed part is kept in a continual vapour and steam bath. This dressing is much lighter than a poultice, which weighs from five to seven ounces, is much more comfortable to the patient, and does not require so frequently to be changed as the poultice. Its efficacy is even greater. It may be employed after an abscess has formed and opened.—*Obstetrical Journ. of Great Britain*, Jan. 1875.

On a Case of Double Mastodynia with Secretion of Colostrum.

Dr. F. SCHULTZE relates, in the *Berliner Klinische Wochenschrift* for October 19, 1874, a case from the clinic of Professor Friedreich of Heidelberg.

It occurred in a married woman, aged twenty-six, the mother of one child, which she had suckled only for six weeks; her milk, which was plentiful before, disappeared suddenly through mental distress, without any pain. Menstruation returned, and continued to be normal up to her admission into the hospital in June, 1873. She stated that about seven months before her admission, and about four months after an acute attack of rheumatism, she was suddenly seized with sensation of fulness of the right breast, as if "the draught" had come in; this continued, and on squeezing the gland, milk squirted out. The feeling of distension subsided the next day, and most acute pains in the breast came on. Five days afterwards the left mamma was similarly affected, and pain attacked both, mostly the left. At first there were intervals of entire freedom from pain, but during the last few weeks before entering the hospital the suffering was continuous, only exacerbations and remissions being observable. She was anæmic, but well nourished; the breasts were moderately pendent; palpation discovered nothing abnormal, and nowhere were there any painful nodules, nor were the glands anywhere sensitive. A few drops of a yellowish fluid could be squeezed out of the breasts, which exhibited microscopically all the characters of colostrum. There was tenderness over the dorsal vertebræ from the second to the tenth. All the thoracic and abdominal organs were normal. There were no signs of extra-uterine or uterine pregnancy, only some leucorrhœa and slight redness at the vaginal orifice.

The patient was kept nine months in the hospital, and every conceivable method of treatment was adopted; medicines of all sorts, subcutaneous injections, electricity, galvanism, and the continuous currents. The sufferings of the patient fluctuated under these various methods of treatment; at times showing improvement, at others the reverse.

The pain in the right breast was generally in its upper half, over the collar bone and through the shoulder; in the left, in its lower half, and down the same side. The left mamma was, as a rule, the more painful during her stay in the institution. On stooping she frequently felt a sensation as if the breasts "would fall out." Repeatedly, every fourteen days, for about two or three times, she experienced a peculiar feeling of chilliness in both mammae, which lasted for some hours; there was also at times some formication, but never any anæsthesia of the skin.

Distinct symptoms of hysteria never showed themselves; menstruation was not very regular either as to quantity or to time; latterly, during the periods, the pain in the breasts increased, the mammae becoming tense and full; the secretion at these times was clearer, more like serum, with fewer milk-globules and less appearance of milk.

Pure uncomplicated mastodynia is stated by Broca never to exist, whilst some of the older German writers mention it as a "tolerably frequent affection, especially in delicate nervous women." Eulenberg believes it to be one of the rarest and most obstinate forms of neuralgia; be that as it may, it is certain that to find it accompanied with a secretion of milk is a rare and remarkable occurrence.

Galactorrhœa, whether in old or unimpregnated women, or in men, is by no means an exceptional event; but there is no instance in literature of a pure mastodynia coupled with a secretion of milk. Beigel's well-known case differs in this respect from the above, that the milk came first, the pain afterwards; whereas in Professor Friedreich's case the pain was first, the milk secretion followed. He believes he is not wrong in attempting to explain his case by analogy with neuralgia of the trifacial, where there is an immense secretion of the lachrymal gland, through irritation of the lachrymal nerve. So also in neuralgia of the nerves supplying the skin (*Hautnerven*) of the gland, the nerves of secretion may become irritated, causing a flow of milk, or it might be that the nerves of secretion and sensation were affected by one and the same irritation, which would produce the self-same effect. It is remarkable, considering the intimate relationship between the nerves of the skin and the nerves of the gland, that this affection is not more frequent. It could hardly have escaped the notice of careful observers if such were the case.—*London Med. Record*, Dec. 23, 1874.

— The Thermometry of the Uterus.

Dr. COHNSTEIN, of Berlin, in the last part of Virchow's *Archiv* (Band lxii., Heft 1), believes that in cases where the ordinary means of determining whether the *fœtus in utero* is alive or dead fail, it may be determined by means of the thermometer, for he has observed that the temperature proper to the child is higher than that of the mother; the temperature in the uterus is consequently higher than that in the vagina, because in the former the thermometer registers the heat of the mother *plus* that generated by the child. If the child dies, the latter factor fails, and the temperature of the uterus and vagina becomes equalized. The fall of temperature, however, after the death of the child only takes place gradually, because the difference of temperature between the uterus and its surroundings is only small, and two or three hours elapse and several measurements are required before it can be quite certainly determined. Cohnstein gives five cases in which a correct diagnosis was made of the life or death of the child by this means. FEHLING, in a recent number of the *Archives de Gynécologie*, has tried Cohnstein's method in eighteen cases, and found it reliable in all but two, in one of which the patient was in a febrile state owing to the death of the fœtus. Cohnstein believes that the difference in temperature between the uterus and vagina may also serve as a means of determining the existence of pregnancy when this is denied or doubtful. He observes, very properly, that care should be exercised as to the depth to which the thermometer is insinuated into the uterus, as abortion or miscarriage might be thus induced if the experiment were carelessly conducted.—*Lancet*, Jan. 16, 1875.

On Dermoid Cyst of the Broad Ligament; Gastrotomy and Cure.

A girl aged eighteen, a virgin, entered in February, 1871, the Hospital Saint-Antoine. She had suffered for two months violent pains in the flanks and loins with obstinate constipation. There was no menstrual disorder. The abdomen was very painful, and there was dysuria. M. Leroy diagnosed an abdominal tumour, which he aspirated, and drew off a quantity of thick, fatty, yellow matter, in which the microscope showed epithelial cells, like those found in the sebaceous glands.

The os could not be reached by vaginal examination, but there was a hard tumour filling up both the back and front parts of the pelvis, with a fold in the vaginal mucous membrane between the bladder and rectum, both being pressed upon. The tumour reached to the umbilicus. She suffered so much that an immediate operation was desired, and M. AUGER operated and removed a dermoid cyst from between the folds of the broad ligament. It was very closely adherent to the body of the uterus, but had no proper pedicle. The Fallopian tube passed over the upper part of the tumour. The ovary was not seen. The tumour was on the right side.

[This is an interesting case, as the tumour corresponded in all its anatomical relations with the extra-ovarian cysts, which are affirmed by some to be always unilocular, and derived from the organ of Rosenmüller. Here, on the contrary, there was a cyst evidently of ovarian origin, growing between the folds of the broad ligament, and with the tube stretching over it. The case would be more interesting if the ovary, or any remains of it, had been seen. Was the tumour the result of an ovum escaped between the layers of the broad ligament, or of a Graafian follicle in the same situation? If not, whence its dermoid nature?]—*London Med. Record*, Jan. 13, 1875.

On Sterility attending Disease of the Sexual Organs.

At the Congress of German Naturalists and Medical Men, held in 1874 at Breslau, in the gynæcological section (*Berliner Klinische Wochenschrift*, November 23, 1874), Dr. VON GRUNEWALDT, of St. Petersburg, discoursed on the sterility of women with diseased sexual organs. He found that out of 824 sick women of the age, and under circumstances favourable for impregnation, 432, or more than fifty per cent., were sterile. He came to the following conclusions. 1. Sterility of women is a disturbance of the normal function of the sexual apparatus. 2. Conception forms only one link in the course of events by which the female provides for the propagation of the species. 3. A complete mechanical impediment to conception of the woman arises only in consequence of atresia in the course of the genital tract. 4. The point of difficulty in propagative activity in the woman, as far as the uterus is concerned, rests on the capability of the impregnated ovum for germination (*Bebrütung*). 5. This capability depends exclusively on a certain degree of integrity of the consequent tissue of the uterus. 6. The part which ovulation plays in the process of propagation can be defined clinically, only rarely, or not at all.—*Lond. Med. Record*, Jan. 23, 1875.

On the Origin of Urinary Fistulæ in Women.

LANDAU of Breslau (*Berliner Klinische Wochenschrift*, Nov. 23, 1874) spoke on the genesis of urinary fistulæ in women. He blamed the forceps as the chief cause of fistulæ situated in the lower portion of the vagina and of complicated ones, not so much by the production of sloughing by their blades, as by pressing the back of the head against the anterior pelvic walls and increasing friction. For the formation of fistulæ situated higher up, the pressure of parturition alone sufficed as the direct cause.—*London Med. Record*, Jan. 23, 1875.

On the Treatment of Spasm of Uterus.

Dr. FRÄNKEL of Breslau (*Berliner Klinische Wochenschrift*, Nov. 23, 1874) related a new method of treatment of spasm of the uterus during expulsion of the child and placenta. When the uterus has become completely or partially spasmodically contracted on the fœtus, or on a separated placenta, which in the former case is frequently the result of the liquor amnii draining away in cross-births, and preventing the passage of the hand to turn the child, he proposes to overcome the spasm by injecting hypodermically a solution of sulphate of atropia (0.001 gramme= $\frac{1}{1000}$ grain) and of muriate of morphia (0.015 gramme = about $\frac{1}{4}$ grain), with inhalation of chloroform about five minutes later. There is no fear of *post-partum* hemorrhage: the uterus relaxes speedily and yieldingly.—*London Med. Record*, Jan. 23, 1875.

Polypus of the Uterus, treated by the Internal Administration of Ergot.

Dr. DANIEL F. COLLINS, of New York, reports (*Medical Record*, Jan. 30, 1875) the following interesting case.

Mrs. E. S., a short, thin woman, of sallow complexion, and the mother of four children, sent for me to attend her for a "womb trouble." I found her exhausted from uterine hemorrhage and in a very dangerous condition.

In answer to my questions, she stated that she was sick and in delicate health for the past six months, and had suffered a great deal from "flooding," and that these attacks generally came on every eight or ten days. But for the last two months she lost more or less blood all the time. Having checked the hemorrhage, I left, promising to call the following day.

On calling next morning I found her free from any symptom of flooding, but in a very weak condition. On introducing my finger through the os uteri, I found at the upper and posterior portion of the organ a round substance or tumour about the size of a small orange; passing my finger around it I found it was impossible to pass even the point of my finger between the base of the tumour and the side of the womb, and that the tumour seemed to be closely attached to the wall of the uterus. The patient being very weak and nervous from loss of blood, I deferred further examination until next morning, which further examination satisfied my mind that it was impossible to remove the tumour *in its present* condition and relation to the uterine wall without a considerable and dangerous loss of blood, which, considering the weak and exhausted condition of my patient, I did not feel justified in risking.

After a consideration of the case, I decided on giving moderate doses of ergot in combination with a little opium, in order to bring on such contractions of the uterus as would separate the polypus or tumour from the uterine wall, sufficiently for me to either strangle the tumour or remove it by excision.

On paying my visit next morning, the patient complained of "bearing-down pains," and said that she suffered as much as if she were in the beginning of labour. On making an examination I at first found considerable difficulty in introducing my finger through the os, owing in the first place to the state of contraction the uterus was in, and secondly to the tumour pressing down from the fundus of the womb, and as if blocking up the passage. On succeeding in introducing my finger, I found that the body of the tumour or polypus had entirely separated from the wall of the uterus, and was now held but by a small pedicle about three-quarters of an inch in length, by a little less than half an inch in diameter. After a careful examination I could find no trace of pulsation in the pedicle, but found it soft, and to the touch not unlike that of the umbilical cord. Taking a gentle but firm hold of the polypus, I turned it round and round several times and then withdrew my hand. After cautioning my patient against any unnecessary exertion, and telling her to send for me if there was any change in her condition, I left.

On the following morning I found on examination that the pedicle had softened a good deal owing to the twisting the previous day, and discovering no trace of pulsation in it I at once passed up a curved blunt-pointed scissors, and with one clip severed the connection between the polypus and the wall of the uterus. I

immediately gave the patient a dose of ergot which brought on firm contractions in a short time. The polypus was expelled, the patient not having lost a teaspoonful of blood.

The polypus was of fibroid character, and measured two and one-half inches long by two and one-quarter inches in diameter, and was hollow, containing a lot of grumous blood.

The patient rapidly recovered, and is now strong and healthy, has had no hemorrhage since the removal of the polypus, and is quite free from "womb trouble."

Having examined several of the latest works on uterine diseases, I cannot find in any of them any allusion to the exhibition of ergot in cases similar to the above,—that is, giving ergot as a means for separating, as far as its attachments will allow, the body of a tumour or polypus from the wall of the womb before removal.

Another question that presents itself in considering the above case is—In many of the cases that are treated as fibroid tumours of the uterus, in which the physician finds the tumour firmly and closely attached to the wall of the uterus, and almost imbedded in it; would not the careful use of ergot in many of these cases, change our diagnosis from that of fibroid tumour to simple polypus, and consequently alter our treatment in many cases, from giving temporary relief and using palliative measures, to a permanent cure by the removal of the morbid growth?

That the judicious use of ergot itself or in combination with opium will, in a large number of cases, materially help and simplify the operation of removal, I have little doubt. It will do so by producing sufficient artificial contraction of the uterus to enable that organ to separate, as far as its attachments will permit, the morbid growth from its walls. In doing so, the danger of including a portion of the wall of the uterus is removed, or at least greatly lessened, and in many cases a dangerous hemorrhage avoided.

Sarcoma of the Uterus.

Dr. KUNERT, writing on this subject (*Archiv für Gynæk.*, Band vi. Heft 1), after giving the completed history of six cases which he had the opportunity of watching till the fatal end (these cases had previously been published by Prof. Spiegelberg), gives a *résumé* of the chief points in the pathology of the affection. He then speaks of the course, diagnosis, and treatment. Sarcoma of the uterus has not been known to occur before puberty. The progress of the disease is very rapid, and always terminates fatally. From the moment a tumour is discovered presenting the characters of a sarcoma, the advance is rapid; the alteration in the general condition of the patient most marked. In 14 out of 30 cases death followed within a year after the tumour was recognized, in 1 after two years, in 3 after three to six years. In 3 cases the general condition of the patient was fair after two years. There is a unique case of a cure reported by Winkel. The diagnosis is generally easy. Carcinoma of the body of the uterus is exceedingly rare, and the consistence of the growth is different. It is easily distinguished from carcinoma of the cervix, when debris of the tumour is found in the discharge. Hemorrhage and pain occur early; but on the other hand great immobility only later. It is difficult to distinguish it from a myoma. The alteration in general condition of the patient usually first arouses suspicion as to the malignancy of the growth. The prognosis is bad, only a little more favourable than in the carcinoma. With regard to treatment, as preventive, every myoma should at once be removed. When the sarcomatous growth is recognized it should at once be removed. If the tumour is circumscribed, the base should be cut through with the knife, scissors, or *écraseur*. If the growth is diffused it should be taken away with the curette, scoop, finger-nail, etc., as much as possible. Bleeding is best stopped by plugs steeped in the liq. ferr. perchloridi. In cases where it is impossible to operate, fair results are obtained from the repeated injection of a solution of carbolic acid, perchloride of iron, tincture of iodine, caustic potash, or the actual cautery.—*Obstetrical Journ. of Great Britain*, Jan. 1875.

Medical Jurisprudence and Toxicology.

A Case of Chloroform Narcosis Resuscitated by Nélaton's Method.

Dr. M. H. JORDAN, of Birmingham, Alabama, reports (*American Practitioner*, Feb. 1875) the following case of this.

Miss —, aged eighteen years, stout, of full habit, and seeming to be in perfect health, applied to Dr. Eubank, a dentist of this place, to extract a tooth. She was accompanied by Dr. F. D. Nabors, and concluding that she could not undergo the operation without chloroform, this after some solicitation was administered by Dr. N. on a napkin. After four or five inhalations, some spasmodic movements of the face being observed, the napkin was removed, and the patient directed to open her mouth, which she did, when the tooth was extracted without pain. No indications of a return of consciousness being observed, and the pulse being found excessively small and feeble, and it along with the breathing soon ceasing to be perceptible, the patient was quickly placed prone on a bed, and Dr. I. W. Sears and myself sent for. Dr. S. arrived a few minutes before me, and finding the jaws tightly closed, he forcibly opened them with the handle of a spoon, and pulled the tongue, which had fallen back upon the fauces, well forward. When I reached the scene the young lady was apparently dead. There was complete relaxation of the entire muscular system; the lips, face, and hands were livid; breathing and pulse had ceased. Having in mind the experience of Dr. Marion Sims in a case in many respects similar (see *Am. Journ. of Med. Sci.*, Oct. 1874, p. 570), we immediately inverted the patient's body, the head hanging down, while the feet were raised high in the air by Dr. Eubank, both legs resting over his right shoulder; Dr. Nabors supported the thorax; Dr. Sears kept the jaws open and managed the tongue; while I made efforts at artificial respiration by alternately pressing on the thorax and abdomen. After anxiously waiting for about five minutes for some indications of returning vitality, we were overjoyed at seeing one feeble attempt at respiration, followed after a long and painful interval by another, which gradually became fuller and more frequent, accompanied by a return of the pulse, until we concluded that it was safe to place her back in bed. Imagine our distress to find that as soon as she was put in the horizontal position the breathing again ceased and the pulse disappeared, and she looked again the very picture of death. She was again and instantly placed as before, so as to invite the blood to gravitate a second time to the brain, while efforts at artificial respiration were briskly kept up.

After a prolonged and most anxious interval we were again delighted by hearing a feeble spasmodic gasp, followed after another protracted interval by a second, then a third, etc., until the breathing finally became natural and the pulse returned. We laid her on the bed a second time, confident that it was now safe; but shortly after resuming the horizontal position there followed a spasmodic twitching of the muscles over the entire body, with a decided inclination to fall into a heavy sleep. Finding it difficult to keep her awake by mild means, we made stimulating applications along the entire spine, and put her feet into hot (almost scalding) water, which roused her sufficiently to make further treatment unnecessary. After anxiously watching and working with this patient for one hour and a half, we were rewarded by seeing her restored to life, and at the expiration of four hours finding her able to ride to her home, a distance of five miles.

I feel that I am simply stating a reasonable conclusion when I say that the life of this young woman was saved by practising the method of M. Nélaton, and I do not believe that she could have been resuscitated by any other.

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HENRY C. LEA, Philadelphia.

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(For List of Contents see last page.)

APRIL, 1875.

Anatomy and Physiology.

The Trophic Root of the Fifth Nerve.

MEYNERT, in his account of the brain, describes a root of the trigeminus as proceeding from the anterior ganglion of the corpora quadrigemina, which is characterized by containing large vesicular cells. This he regards as the anterior sensory root of the fifth, though by other authors it is considered to belong to the fourth nerve. This root forms the semilunar fasciculus of fibres seen near the median line in all transverse sections of the pons. Merkel, who has recently examined the subject, has arrived at the same conclusion as Meynert in regard to its origin, recognizing the first traces of the root in question in the cells and fibres lying between the gelatinous tissue surrounding the aqueductus Sylvii and the corpora quadrigemina. The ganglion cells here found possess two axis-cylinder processes, one of which, situated on the central side of the cell, is very fine and delicate, whilst the other, proceeding from its peripheral side, is much coarser, thus supporting the view put forward by Merkel some time ago, that bipolar ganglion cells are intercalated in the course of a fine nerve-fibre for the purpose of strengthening it. After their origin, the fibres descend till they almost reach the conjoined oculo-motor and trochlearis centre; from thence they ascend obliquely by the side of the root of the fourth, and at the line separating the corpora quadrigemina from the velum medullare anterius the trigeminal bends underneath the fourth, just before the emergence of the latter, and forms the fasciculus which presents a semilunar transverse section. Meynert and Merkel differ in regard to the function of this root, Meynert considering it to be a sensory root, and Merkel a trophic root. Merkel founds his opinion partly on pathological evidence, which indicates that the trophic disturbances in the eye after injury to the fifth may have a cerebral origin, and partly on physiological experiments. In rabbits the roots proceeding from the quadrigeminal origin of the fifth do not fuse with the sensory root of the fifth, but run separately along the median side of this root. In an experiment he made, whilst the sensory root of the fifth was destroyed, this portion was uninjured, and only very transitory trophic disturbance was the result. — *Lancet*, Feb. 6, 1875.

On the Uterine Lymphatics.

At the Congress of German Naturalists and Medical Men, held in 1874, at Breslau, in the Gynæcological Section (*Berliner Klinische Wochenschrift*, November 23, 1874), Dr. LEOPOLD of Leipsic made a communication on the lymphatics of the gravid uterus and of the secundines. He found that the uterine mucous membrane exhibits a vast lacunar and cavernous system of lymphatic spaces; the latter surround the bloodvessels and uterine glands, and are to be viewed as the beginnings of the lymph-tracts of the whole uterus; they pass through from the mucous membrane to the cellular tissue covering the uterus (*Parametrien*) and here, as large valved spaces, enter the pelvic lymphatic glands. The mucons membrane of the pregnant uterus displays the

same lymph-spaces, but in greater number and of a greater calibre. The effect of this is that, when after an abortion or labour the placenta is thrown off, the small remainder of the mucous membrane of the puerperal uterus consists of thousands of patulous lymph-spaces. This explains the possibility of very rapid absorption of septic materials conveyed into the vagina or uterus. Not only is the maternal placenta, but also the membranes are permeated with lymph-spaces, particularly the amnion, which is constituted like peritoneum, and whose inner surface may be represented as a lymph-sac.—*London Med. Record*, Jan. 13, 1875.

— *On the Liquor Amnii.*

Professor SCHATZ, of Rostock (*ibid.*), spoke on the question of the source of the liquor amnii. He found that a large part, if not the larger portion, of the amniotic fluid was yielded by the kidneys and the skin. The chemical constitution of the fluid proved this. Its interchange, viz., its constant reabsorption and its reappearance in urine and sweat, seemed to proceed very actively. The consistence of the meconium admitted of the conclusion that the fetus, during the last months of gestation, partially swallowed its liquor amnii. This the author proved by an observation made in a case of twins.—*London Med. Record*, Jan. 13, 1875.

— *On the Function of the Spleen.*

At the meeting of the Paris Society of Biology, on December 26, M. TARKANOFF communicated the result of a series of experiments undertaken to determine the function of the spleen, and to ascertain if it may be considered as helping in the formation of white corpuscles. This opinion has gained so strong a footing in physiology, that it has become an axiom since the labours of Vierordt and Funk, who, comparing the blood of the splenic artery with that of the vein, established that in the latter there was one white to every seventy red corpuscles. In the arterial blood, on the contrary, the proportion was normal. They thence concluded that the spleen was an organ forming white corpuscles, but they made their experiments upon dead animals. M. Tarkanoff, however, made his experiments on living animals; he performed section of the splenic nerves, when hyperæmia and swelling of the spleen ensued, and at the same time a veritable leucocythæmia. This experiment appeared to him to be in accordance with M. Vierordt's conclusions, since greater activity in the circulation of the liver brought on an increased production of white corpuscles; but at a subsequent period M. Tarkanoff found that a simple wound, without any section of the splenic nerves, would bring on a similar leucocythæmia; the excess of circulatory activity could not, therefore, any longer be taken into consideration. He, therefore, wished to investigate the exactness of Vierordt's and Funk's data, and made an exact reckoning of the white corpuscles of the splenic vein and artery on the living animal by M. Malassez's method; but he first felt it necessary to discover in what proportions these corpuscles were present in the arterial and venous systems. The results were so different that he could not arrive at any conclusion, but he invariably found that the white corpuscles were more numerous in the left than in the right side of the heart; and in one analysis alone he found that the left ventricle contained 2765 corpuscles, whilst the right contained only 1530. He also established a similar fact in the vessels of the spleen, which is in opposition to what writers have hitherto maintained. The proportion of white corpuscles is always more considerable in the arteries than in the veins; in one case he found 8900 in the artery, and only 9500 in the vein. He also ascertained that this increase of the corpuscles in the artery was larger in proportion as the circulation of the spleen became more active. After dividing the splenic nerves he counted 10,000 white corpuscles in the artery, and only 4300 in the vein. M. Tarkanoff, therefore, concludes that in all instances the white corpuscles are less numerous in the splenic vein, and that this diminution becomes so much the more marked as the activity of the circulation is greater.—*London Med. Record*, Jan. 20, 1875.

On the Place where the White Blood-Corpuscles wander out of the Vessels.

L. PURVES (*Onderzoekingen geduan in het Physiol. Labor., Utrecht, 1873, iii.*), to investigate the place where the white blood-corpuscles pass through the wall of the vessel in Cohnheim's experiment on inflammation, injected a solution of silver into the vessels of a frog prepared after the manner of Cohnheim. The colourless corpuscles, without exception, wander out between the boundaries of the epithelioid cells. They never pass through the substance or through the nucleus of an epithelioid cell. According to the author, the red-corpuscles only pass out by those channels which have been previously made for them by the colourless corpuscles. The author found no stomata of any kind on the epithelium of the vessels.—*London Med. Record*, January 20, 1875.

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The Acid of the Gastric Juice.

DR. CARL SEILER reports (*Phila. Med. Times*, Feb. 6, 1875) that the results of a chemical examination of the contents of the stomach of an executed criminal (Heidenblut), made two hours after death, and five hours after the ingestion of a meal, consisting of boiled eggs, bread and butter, and coffee, go to prove that the acid reaction of the material was due to lactic acid, and not to hydrochloric acid.

—
The Action of the Salts of the Bile Acids on the System.

In the *Journal de l'Anatomie et de Physiologie* for December, there appears an interesting communication from MM. v. FELTZ and E. RITTER, on the action of the salts of the bile acids on the system. The results of their experiments on dogs are briefly as follows: The biliary salts are extremely poisonous, and are rapidly eliminated from the system when injected into the blood, as is evidenced by an increase of all the secretions, the ptyalism, the abundance of the urine, and the watery stools. When the poison is intense, the blood-corpuscles are dissolved and the blood becomes diffuent; the proportion of fatty matter and cholesterine in the corpuscles is increased; the colouring matter passes off with the urine; hemorrhages of the mucous membranes are frequent; the temperature of the animal is slightly depressed; the excretion of urea is diminished, that of uric acid increased; the urine often becomes alkaline, and contains traces of albumen and indican. The slow action of bile-acid poison produces fatty and granular degeneration of the liver and kidneys. In this respect it resembles the action of phosphorus, but differs from it by not producing the muscular lesions characteristic of that metallic poison. They found the taurocholate of sodium more active than the glycocholate; the mode of action of both, however, was similar.—*Lancet*, Jan. 9, 1875.

Materia Medica and Therapeutics.

On the Action of Cantharides as a Vesicant and Rubefacient.

In his article on cantharides, in *Lo Sperimentale* (already quoted in the *Monthly Abstract* for March 1875, p. 102), Dr. CANTIERI makes the following remarks on the local action of cantharides.

Physicians apply blisters as a means of revulsion. What is this revulsion? Schiff, after having opened the thorax of a frog and laid the heart bare, struck the animal's abdomen with a small instrument, and saw the heart become small, pale, and bloodless, until at last its action altogether ceased. He then divided

the aorta; only a very little blood escaped, which had been arrested in it. On opening the abdomen, he found its vessels extremely dilated (*Lezioni di Fisiologia Sperimentale*, compilata dal Dott. P. Marchi, Firenze, 1866). This is precisely what revulsion is.

Revulsives can only exert their action on removable elements, such as the blood and, perhaps, the contents of the lymphatics. Primary hyperæmiæ, or those which form the first element in inflammation, or the simple passive hyperæmiæ sometimes met with, are the only ones which can be removed by revulsives. And, in fact, we see certain states of hyperæmia produced by insolation, or by the abuse of alcohol, overcome by pediluvia of water, either simply warm or with mustard added to it, or by the action of stimulant frictions over the whole cutaneous surface of the body. I believe in the truth of revulsion; in the fact that a quantity of blood flowing to a part of the body may, by means of an irritant, be removed and conducted to another point.

But when inflammation is already developed, if the red and white corpuscles and the plasma have passed through the walls of the capillaries, and have already produced an increase in the size of the affected part, if, finally, what we call inflammatory exudation have taken place, then revulsion is altogether impossible. This stage of inflammation requires a special process for its completion. Either resolution, suppuration, induration, or gangrene takes place.

The agent of revulsion should be in proportion to the quantity of material that can be removed. Velpeau and Gendrin believed this to such an extent, that they applied blisters of enormous size; the former to a limb, to cut short a phlegmon, the latter to one-half of the chest, to subdue pleurisy or pneumonia. I do not very well know what effects they obtained; but, without referring to the experiments which I have performed, and judging solely from clinical experience, I much believe that, if the final result were successful, the direct effect on the part, and the indirect ones upon the internal organism, must have been very severe. And this is because the revulsive action cannot be separated from the other action which depends on the absorption of the elements of cantharides—the alteration and destruction of the blood-corpuscles, along with the alteration of structure and disturbance of function of the nervous centres. I do not believe that the abuse of a remedy is justifiable, when there is reason to fear that it will injure to such an extent as to put the patient's life in danger in place of overcoming his disease. On the contrary, it is the duty of the physician to select other means, which are free from danger, although their action is less certain.

The method of Velpeau and Gendrin is simply substitutive medication—that is to say, the excitation of a visible external inflammation for the purpose of overcoming an internal one.

But such a mode of treatment is objectionable. There is not the least doubt that revulso-substitutive medication must always aggravate the condition of the patient, inasmuch as it develops a new focus of disease, it may be, indeed, external, of which it is not within the power of the physician to limit the extent or to moderate the effects which it must necessarily produce on the whole organism; and, in my opinion, such treatment must always be injurious, however pursued, and especially when blisters of cantharides are used for the purpose. For the good of humanity, the revulsivo-substitutive treatment ought to be eradicated from the list of remedies.

Besides substitution, revulsive medication comprises also rubefacient action; and this, being useful in certain conditions, may still be employed.

The action of a vesicant on the skin is eminently irritative. A few hours after its application it produces pain, redness, slight tumefaction of the part, then sero-albuminous exudation with raising of the epidermis, first into small vesicles, which become confluent and are united into a large blister. These effects are more or less active, more or less painful, according to the delicacy of the organism and to the morbid predisposition of the individual to whom the vesicant is applied. In slender, weak, and nervous females, we sometimes meet with lipothymia, or with convulsions, dependent, probably, on the pain produced by the vesicant. In lymphatic and obese individuals, on the other hand, vesicants, even when applied but for a short time, have been known to

produce serious suppuration and sores difficult of healing; and in cases of typhoid fever, or of debility connected with subcutaneous serous exudation, extensive and deep sloughing, leading to pyæmia, ichorrhæmia, and death, has been produced.

The physician who judges it necessary to employ cantharides as a rubefacient, must attend to the following conditions:—

1. To keep the vesicant applied for as short a time as possible; since its prolonged contact with the skin may lead to the absorption of a large quantity of the active principle of the cantharides, and to its consequent effects on the organism. In some cases, a large blister has risen some hours after the removal of the vesicant; the action is then destructive, and all the results above enumerated may arise.

2. Not to apply it to nervous, slender, and delicate individuals, in order to avoid the perverting effect of cantharidine and the debilitating effect of pain.

3. Not to apply it to patients suffering from fever arising from infection of any kind, lest, besides adding a toxic element to that which already exists, grave new changes be produced.

4. Not to apply it to persons suffering from chronic heart-disease or other maladies attended with œdema or anæmia, and with great tendency to inflammation of the skin.

Putting aside these cases, I think that vesication with cantharides may be useful in medicine as a rubefacient in simple venous hyperæmia or stasis, such as arises from insolation, from the temporary abuse of alcoholic liquors, from heart disorders, and other affections of this kind. But, although I would not absolutely oppose the use of cantharides, I would prefer sinapisms, or simple or sinapised pediluvia, frictions of the skin, and other kinds of irritants which are not attended with danger.

Finally, the following conclusions arise from the facts which I have studied and analyzed.

1. Vesicants do not sustain or excite the action of the heart and vessels, but rather weaken and depress it.

2. The stimulant action on the heart seems to be better explained by the action of remedies administered internally, such as wine, ether, etc., than by that of the vesicants.

3. Vesication with cantharides is absolutely contra-indicated in all cases of dropsy arising from active or passive hyperæmia of the kidneys; because the drug, exercising its irritant and perverting action on these secretory organs, augments the afflux of blood and thereby aggravates the morbid condition. Such treatment is to be absolutely prohibited in dropsies attending Bright's disease or cardiac disorders, especially if the presence of albumen in the urine intimate the existence of renal stasis.

4. Substitutive treatment cannot be carried out, since, besides the mischief arising from the extensive local action of a vesicant, there are the evils which may be produced from the absorption of the cantharides.

5. Vesication may be used as a rubefacient under the conditions already described.

6. In applying rubefacient treatment, it is best to have recourse to other irritants, such as sinapisms, pediluvia, etc.

7. In general, vesicants cannot be applied to the treatment of acute diseases without injury to the patient. They cannot be used in typhoid and in other infective fevers, in which an adynamic and ataxic state prevails, inasmuch as, in consequence of the absorption of the active principles of the cantharides, the blood-corpuscles are changed, the contractile power of the heart is diminished, and one infection is added to another; while on the other hand, changes are produced in the cerebro-spinal centre, which give rise to disorders of the vital functions dependent on them. Vesicants cannot be applied in any stage of inflammation, since they increase the hyperæmia, destroy the contractility of the vascular walls, and paralyze the vaso-motor nerves; or by altering the blood-crisis, they may produce changes in the products of inflammation. Finally, they favour cardiac collapse, instead of preventing it, as has been believed.—*London Med. Record*, Jan. 13, 1875.

On the Therapeutic Action of Bromide of Camphor.

At the meeting of the Biological Society of Paris on December 26, M. RAYMOND communicated the details of two cases treated with bromide of camphor.

The first case was one of a girl aged nineteen, suffering from hysterical tremblings. Before she came into the hospital she was in a nervous condition, shown by a frequent desire to cry, pains in the epigastrium and back, etc. On the day of her admission she had a little gastric disturbance, and suffered from a dry, hoarse, spasmodic, hacking cough, recurring at irregular intervals, especially during the day. At the same time, she experienced difficulty in breathing, and some pain in the right side. Examination of the respiratory organs did not show anything abnormal. Twenty-seven days after her admission, when her general condition was satisfactory, after having for some days past complained of somewhat violent palpitations of the heart, she was suddenly taken in the morning with tremblings in the left leg, accompanied by the same symptoms, but less violent, in the right. The appearance of these tremblings was preceded by pains in the knees the preceding night. The trembling was specially restricted to the muscles of the thigh, and disappeared during rest. Sensibility to touch was absent in both the lower limbs. It was also accompanied with sudden movements always in the same direction. If the patient were desired to lift her leg, the muscles became the seat of convulsive jerks. The next day the shaking, which had on the previous day disappeared during rest, became persistent, and the right arm was affected. On the third day the left leg was agitated with involuntary movements, occupying nearly all the muscles; the leg was flexed over the thigh, and the patella was visibly raised during the contractions of the triceps. The movements were not so strong in the right leg. In the evening of this day there were tremblings of the tongue, palpitations, and a considerable amount of oppression. On the fifth day, treatment by bromide of camphor was commenced. The patient took five granules, and on the sixth day six granules. On the seventh day she was better; the tremblings were rather less violent, and sensibility reappeared in the members affected. On July 23, ten granules were given, and the movements had greatly diminished. On July 25, about 5 P. M., the patient was suddenly attacked with very powerful tremblings in the right arm and the left leg. On August 4, she took fifteen granules, and the trembling was improved. On August 10, she took nineteen granules, and the next day twenty. The improvement continued, and she soon left the hospital cured. In ten days she returned for fresh advice, as the tremblings had threatened to trouble her again; and she was again treated with bromide of camphor. She came back into the hospital towards the end of the month for some days, because the tremblings had returned, and again went out cured, after having again taken bromide of camphor.

In the second case, the condition was almost analogous; but is less conclusive, because the treatment by bromide of camphor was obliged to be interrupted, on account of the patient's complaints of suffering from gastralgia, which may possibly have been somewhat imaginary. She was a hysterical girl, aged eighteen, who, before her admission into hospital, had had four convulsive attacks without loss of consciousness. The last had occurred on the eve of her admission. During the first month of her stay in the hospital, she had a mild attack of typhoid fever, from which she was not convalescent for some time. On her return from taking a sulphur vapour-bath, she was suddenly seized with tremblings of both arms and legs. The muscular jerks were regular, rapid, circumscribed, but rhythmical. The trembling persisted during rest, but disappeared during sleep. Sensibility remained intact. At the same time she had the characteristic oppression, globus hystericus, palpitations, and some spinal pains. Hysterical attacks and fresh tremblings of the right arm and left leg appeared. The patient was placed under treatment of bromide of camphor, commencing with two and then going on to ten granules. The use of the bromide of camphor was twice interrupted by attacks of gastralgia, and the cure was completed by bromide of potassium.—*Lond. Med. Record*, Jan. 27, 1875.

Rules for the Administration of Ergot.

Dr. J. BRAXTON HICKS, in a lecture published in *Guy's Hospital Gazette*, Feb. 6, 1875, says: There is a rule which I may as well mention here, namely, *not to give secale if any obstacle to delivery is expected, unless we are prepared to render assistance when the pains have been roused*. I have seen the former portion of this rule enforced, but this is limiting our use of secale too much. Unless we have instruments, etc., close by, then the rule holds good. As an instance of the employment of this drug under these circumstances, I may mention a case. I was sent for in consultation to a patient who had been a long time in labour. The pains had subsided. Two doses of liquor secalis had been given, but without any result. The uterus was still motionless. It was not in a permanently contracted condition. I therefore repeated a third dose. I waited an hour without result. Thinking that perhaps the preparation was at fault I gave twenty grains of the powder, boiled in water, and drunk with the dregs. In a quarter of an hour the uterus was in full action. We had suspected some obstruction from noticing the size of the pelvis. I was therefore ready with the forceps. After waiting fairly and finding no advance, the forceps was applied and the child delivered, an active uterus making the remainder of delivery safe and natural. The same would occur in a very contracted pelvis; if the uterus should fail in its activity in this case, even if we perforate first (supposing we do not think it advisable to turn) we are much assisted, and no danger is run, if we arouse the uterus into action before we draw down the child. It is difficult to lay down rules as to when it is urgent, in cases of inactivity of the uterus, that we should stir it up to action. I remember, in my younger days, allowing the head of a premature fœtus to rest on the perinæum for twelve hours, at the end of which time there was one pain and the child was expelled. The administering of a dose of secale would at any time rouse "pains;" still, as there was no pressure, and as no ill resulted, there was no necessity. The pulse remaining good, and no aberration from the normal state existing, we may elect to wait without serious harm; it may be more convenient to get the labour over, and we shall not be acting wrong in hastening matters. But when the pulse rises, feverishness begins, and the patient becomes anxious, fretful, and irritable, it is as well, the path for the exit of the child being clear, to give a dose of secale, especially if we have tried the perhaps milder though less certain measures at our hand for stirring up "pains." When the case is well selected, the full dose of secale, from half a drachm to one drachm, acts more satisfactorily as an expellent than small frequent doses. The latter tend to irritate the uterus and retain the child. If the uterus, however, be violently roused to expulsion, while the passages are unprepared or obstructed, then the uterus may injure and rupture itself, or may tear down the obstacle, rending the vagina or perinæum, or damage the child by pressure, or crush its cranial bones, or rupture the longitudinal sinus by too much overlapping.

I prefer to give ergot in the form of powder, twenty to thirty, or even forty grains boiled in water, and the whole taken; this may be repeated in twenty or thirty minutes. There are many preparations which can be given, if proved to be good, in the equivalent doses. The ethereal tincture keeps well and is efficient, but is nauseous and liable to cause vomiting. It is prompt, and may be useful in *post-partum* hemorrhage. Ergotine has been employed in about four-grain doses injected subcutaneously. It is said to be very efficient and rapid in action, but personally I have not sufficient experience of it at present to speak of it more. It will be a very great advantage if ergot can be made to act promptly. Given in the form of a powder it is slow, even when previously boiled. It is more efficient if we employ the liquor or tincture; still it is then very slow for such cases as *post-partum* floodings. In ten minutes the crisis has often passed with one of two terminations; thus, although secale is good in the milder cases of flooding, it is practically useless in the sudden forms, unless its action come in afterwards, when our more active treatment has succeeded, to secure permanent contraction. It is a questionable point whether

large doses of secale do not depress the heart's action, so much as to render its employment to be avoided in extreme cases of flooding. I am inclined to think that it has this effect; but this will not affect our employing it in cases without violent flooding. If in cases of flooding before labour we want to increase uterine action, we may generally employ it, unless the patient be nearly pulseless. It is always a great comfort to feel that when the child is born, the uterus will most probably be in an active state from the previous dose of ergot.

It has also been supposed that ergot is poisonous to the child. For myself, I have no proof of its poisonous properties, but I have often seen it kill the child. If you give it in ill-suited cases—I mean where the uterus, as in many primiparæ, is already irritated, where it has already half-asphyxiated the child, by pressing on the funis, placenta, and half closing the sinuses, then a dose of secale will go far to insure its death; or if impaction be already present, and the suture overlapping, then the parts inside the cranium are pressed upon so hard as to extinguish life, or at least so to damage the brain as to make the child an intellectual wreck. Given in moderate doses, and in true inertia, I know no drug which is so certain of producing the desired effects.—*Lond. Med. Record*, Feb. 17, 1875.

On the Relief of Pain by the External Use of Chloral.

Dr. T. S. Dowse read before the Medical Society of London (*Lancet*, Feb. 13, 1875) a short paper on "the Relief of Pain by the external use of Chloral." He at first referred to the fact that until within the last few days he was not aware that Dr. Dujardin Beaumetz, of Paris, had largely experimented on the local use of this drug. He then showed that the local application of chloral will relieve pain, deaden sensibility, and allay reflex action when arising from irritation of the skin or mucous membrane. "One of its most valuable qualities as a local application was its disinfecting power, and Dr. Dowse cited a number of cases of fungus hæmatodes, bed-sores, and sloughing wounds, in which it had acted as a more valuable disinfectant than anything else. Many other cases were also given illustrating the relief of pain produced by the local application of this drug, and Dr. Dowse also gave the means he adopted for its use. He uses four solutions—(1) a simple solution of four drachms of chloral to one pint of water, (2) one with glycerine, (3) one with perchloride of iron, and (4) one with chloride of zinc. Dr. Dowse concluded by remarking that the relief of pain by the external application of this agent was not effected by its absorption into the blood and by its direct action on sensory motor centres, but rather by immediate action on peripheral nerve terminations.

Cotton-Wool Dressing.

This method of dressing wounds, which has been especially advocated and introduced to notice by M. A. GUÉRIN, and which seems to be coming into extensive use in Paris, has recently been the subject of a report to the Académie des Sciences by a Commission specially appointed to examine into it, consisting of MM. Gosselin, Claude Bernard, Pasteur, Larrey, and Sédillot. The immediate cause of the appointment of the Commission was a work by M. Guérin on the Pathogenetic Rôle of Ferments in Surgical Diseases. M. Guérin claims for his method the following advantages: The absence or slight intensity of the traumatic fever; the continuance of sleep and appetite; absence or great diminution of pain, and the healthy condition of the wound after some days of occlusion; and, as a consequence of these and of the exclusion of ferments, the rare occurrence of pyæmia. He believes that these results are mainly due to the filtration of the air by the thick layers of cotton-wool, the uniform elastic compression of the wound, and the immobility of the injured limb. He states, moreover, in this work that he had never found vibriones or bacteria in the pus on changing the dressings. The Commission, however, found bacteria in the pus of the wounds they examined, although fewer in number than usual; but

they confirmed in the main the other advantages stated to exist by M. Guérin, and the wounds in which the bacteria were found were in a healthy condition. In the discussion which followed the reading of the report, M. Ollier stated that in the rare cases of pyæmia occurring under the use of this dressing, he had observed that the rigors took place at longer intervals and were less severe than in other cases, and that the disease tended to assume a more chronic form. He suggested the combination of carbolic-acid lotions with the cotton-wool dressings. It should be added, for the benefit of those who are not acquainted with M. Guérin's mode of dressing, that it does not consist simply in the use of cotton-wool. He never or rarely employs his dressing except where the limb can be covered for a considerable distance above the wound or operation; he covers to the middle of the thigh, for example, after Chopart's amputation. The cotton-wool is applied in successive layers rolled round and round the limb, each layer being compressed as tightly as possible by a bandage. The wound is usually first washed with strong alcohol. After the operation the dressing is commonly left undisturbed for some days, or even for two or three weeks, until the pus soaks through. Secondary hemorrhage can hardly occur to any extent, as the limb is subjected to such firm elastic pressure. The method seems to deserve a more careful and extensive trial than it has yet received.—*Lancet*, Feb. 20. 1875.

Or Waxed Paper as a Substitute for Lint and Oiled Silk.

DR. DYCE DUCKWORTH, of St. Bartholomew's Hospital (*Archives of Dermatology*, January), when using ointments for the cure of disease or abrasions of the skin, applies them on waxed paper instead of lint. This is the material used by pharmacists for covering gallipots, etc.; it consists simply of thin tissue-paper dipped in melted wax. A piece of this is cut of a size sufficient to extend beyond the margins of the sore place; the ointment suitable to the case is then smeared on the centre, not too thickly, and it is then carefully adapted to the affected part. It is adhesive, so that there is no necessity for strapping or bandaging; it is very cheap, and it is cooler than lint. Dr. Duckworth uses it even for extensive eczema of the limbs.—*Lond. Med. Record*, Feb. 17, 1875.

Medicine.

On the Inoculation of Tubercles.

In the 47th session of the Association of Naturalists and Medical Men at Breslau, Dr. C. FRIEDLANDER, of Strasburg, made the following communication (*Berliner Klinische Wochenschrift*, Nov. 2. 1874). Villemin and others have induced disease by introducing bits of cheesy matter from tuberculous subjects, and other foreign materials, even caoutchouc, under the skin, or into the serous cavities of animals; as well as by injecting the cheesy matter into the blood-vessels. This is called tuberculosis, and from this etiology conclusions as to tuberculosis in human beings have been freely drawn. It is quite true that there are many points of resemblance between the two affections; yet, in a clinical point of view there are some striking differences. Friedlander injected twenty, thirty, or forty cubic centimetres of a fine emulsion of cheesy substance from human bodies into the external jugular vein in twelve dogs. They were quite well after the operation; the wounds healed; only one died from an accident; the eleven others continued well nourished, became fatter, had no fever nor any other disorder, till they were killed three or four weeks after operation. In ten of these eleven there were found in the liver very numerous little nodules, gray, transparent, of the size of a pin's head; the larger ones opaque in the centre, resembling miliary tubercles. These bodies were constantly present in the spleen, not always in the lungs or kidneys, not at all in the eyes, pleura, or pia mater, only a few in the peritoneum, and those near the liver. Those which

were not degenerated in the centre consisted, as shown by the microscope, of an accumulation of round cells, of tolerable size, without any intervening substance; and for the most part the periphery only was supplied with bloodvessels. The opaque centres consisted of cells which had undergone fatty degeneration. The nodules in the lungs consisted of the air-vesicles filled with cells of unmistakably epithelial type; what Buhl calls lobular foci (*Heerde*) of desquamative pneumonia. Small collections of cells were also found between the bronchi and the vessels; but nowhere any formation of nodules in the connective tissue, nothing except such interstitial formations as are common in pneumonia. The disease, thus induced by the experimenter and others in dogs and other animals, is essentially different from human miliary tuberculosis, for the latter is a severe febrile affection, and there are other organs affected beforehand in human beings which escape in dogs—for instance, the peritoneum, eye, and pia mater. Human tubercles are never supplied with bloodvessels. Giant-cells occur in them, not in the animals experimented on. The things are then not identical, and there is probably great difference in their etiology. In the experiment with India-rubber mentioned above, if the water and India-rubber be previously put into absolute alcohol before being introduced under the skin, or into the peritoneum, the wound heals well, and no "tubercles" are produced. The cheesy abscess and so-called tubercles are the simple sequel of a certain kind of foulness (*Unsauberkeit*, lit. impurity). It is, therefore, not safe to draw any conclusions as to human tuberculosis from these experiments. Professor WALDENBURG said, *inter alia*, that it was not true that giant-cells were never found in the inoculated tubercles. With Virchow, he believed these giant-cells were not the specific element of true tubercle. Klebs, Hering, and himself, had all seen giant-cells in inoculated tubercles. It was incorrect to say that the animals did not die of the inoculations; in fact, death was more common than recovery in his own experiments. The distribution and structure of these and human tubercles were almost identical. Waldenburg had seen animals become extremely emaciated after the inoculation, and die with large cavities in the lungs surrounded with miliary tubercles, which were also present in the pleuræ, liver, spleen, kidneys, peritoneum, etc., just as in men. The distribution doubtless varied with the site of the primary focus and its extent, and with the kind of injection. Yet, whether men or animals are concerned, the lungs and the liver suffer most. It is well to be exact and critical, but not too sceptical. Dr. BIRCH-HIRSCHFELD thought dogs bad animals for experiments; he could never develop tubercles by introducing clean India-rubber into the peritoneum. Prof. FRIEDREICH drew attention to the great need for clinical observation in these experimental cases. We are in danger of falling into old errors again about specific elements in tubercle. He had found these giant-cells in typhoid products, and in leukæmic nodules when no tubercle was thought of. Prof. ZENKER said these giant-cells were sometimes present in human tubercles, sometimes absent. On this account E. Wagner gave the name of lymphadenomata, in order not to exclude nodules otherwise characteristic from being classed as tubercles. It would, perhaps, be as well to divide tubercles into giant-celled tubercles and dwarf-celled tubercles—*tuberculum gigantocellulare*, and *tuberculum nanocellulare*. How cautious one ought to be was well shown by the case of a wether sheep which had hydatids of the lung; for starting from the cheesy wall of the sac, the pleura was infiltrated with most minute but exquisite giant-celled tubercles—the product of infection. Yet the animal was fat, apparently healthy, and had no appearance of dying from tuberculosis. It would not do for us to totally reject all the lessons taught by experiments.

Dr. ZUELZER (of Berlin) from his own experiments and those of Gscheidlen and Traube on putrid intoxication, and the innocuity of artificially developed bacteria, could confirm the statement that various animals, dogs, rabbits, etc., could bear very well the introduction of large quantities of *Bacterium termo*. But the moment one added to these innocuous substances any putrid poison (septic material) the symptoms were entirely altered. Septic or pyæmic symptoms, often somewhat complex, immediately set in. If the matter were introduced into the lungs, then pneumonia was set up, and in the centre of these pneumonic foci there were masses of granular and staff-shaped bacteria. He

found the lungs of such animals, when killed, studded with tubercles, in larger or smaller numbers.

Dr. Friedländer said he had experimented on other animals besides dogs—such as guinea-pigs, rabbits, etc. He thought too much attention had been given to mere morbid anatomy and histology in these things. We must not be deceived by mere superficial or partial resemblances. Undoubtedly there are cases of miliary tuberculosis without giant-cells—only collections of small granules, so to speak, a sort of pretubercular formation. The views he had expressed were very similar to those published by Friedreich. The production of tubercles by introducing India-rubber into the abdominal cavity is closely connected with Zuelzer's experiments just related, and also with those of Burdon Sanderson.—*Lond. Med. Record*, Jan. 27, 1875.

On Atrophic Scapular Rheumatism and Rheumatic Muscular Atrophy.

Muscular atrophy, a rare complication of rheumatism, shows itself sometimes in the vicinity of the large joints, principally the scapulo-humeral. This atrophy is mostly attributed to rheumatism of the deltoid; but Dr. SABOURIN (*Archives Générales de Médecine*, 1874) thinks this very doubtful, and believes that this affection should be called atrophic scapular rheumatism. It is characterized by the following symptoms. The patient, after having been in a cold perspiration, feels pains in his shoulders, which pains, slight at the commencement, increase by degrees. As a rule the joint is neither red nor swollen, and there is no fever. Passive movements of the joint give but little pain, if the patient remain quiescent and do not contract his muscles strongly. The pressure of the articular surfaces against each other does not cause much pain; but spontaneous movements give great pain, and the patient points out as the situation where he feels the pain, not the deltoid, but the outer end of the clavicle, the acromion, and the spine of the scapula, that is to say, the points of insertion of the muscular fibres. The patient may recover, but in the contrary event all movements continue to be painful. Atrophy of the muscles commences and makes persistent progress; it attacks not only the deltoid, but the pectorals, the infraspinatus and supraspinatus muscles, and the other muscles of the scapulo-humeral region to such an extent, that when the patient is undressed there is a great difference in size between the infraspinous and supraspinous fossæ of the two sides. Sometimes the coraco-brachial and biceps muscles are similarly atrophied. With the increase of the atrophy all movements become more and more difficult, and are sometimes quite impossible. Dr. Sabourin has never seen the atrophied muscles regain their normal size and power. Atrophic rheumatism is not peculiar to the scapulo-humeral articulation. When the affection is seated in the knee, the muscles of the thigh, and principally the triceps, become smaller. Atrophic scapular rheumatism may be distinguished from rheumatism of the deltoid by the following characteristics: the pains are seated exclusively at the insertions of the muscles; and in the muscular fasciculi, spots which are painful on pressure in the localities where the fibrous tissue is most superficial; and in the second there is a sensation of fatigue in the muscles which are beginning to atrophy. The disease is not seated in the muscular fibre. Atrophy therefore is produced by the irritative process which, invading successively the tendinous attachments of the muscles, the fibrous envelope, and then the neurilemma of the minute nervous ramifications, of which the nervous element becomes changed, interferes with the nutrition of the muscle. This is, however, but a simple hypothesis of the author which greatly needs confirmation by necropsy—a means of which he has not availed himself.—*London Med. Record*, Feb. 10, 1875.

Occlusion of the Vena Cava Inferior.

Spontaneous thrombosis of the vena cava inferior is very rare. Most of the few recorded cases of the occlusion of that vessel have been instances of its compression by tumours, or of the extension into it of a thrombus formed in a

tributary trunk. An example, however, in which no external or collateral source of obstruction could be discovered is recorded in the last number of the *Archives de Physiologie*, by M. Albert Robin. The case is further interesting from the fact that the patient survived the accident for more than twenty years, and recovered sufficiently to be able to follow his employment during the greater part of that time. The early symptoms, for which the patient was under the care of Becquerel, consisted of intense lumbar pain, fever, delirium, and extreme abdominal tenderness, and they came on after severe effort in a stooping posture. The abdomen became enlarged, the bowels constipated. The pain was severe for several days, and continued less intense for six weeks, the urine being scanty and albuminous, and micturition difficult. Only at the end of that time did the ankles begin to swell. The anasarca rapidly increased, and progressively invaded the whole body, ultimately becoming enormous. The deferred onset of the dropsy must be taken as evidence that the obliteration of the vena cava was gradual. The invasion of the superior half of the body is rare, and was probably secondary to the renal mischief. Under the advice of a quack he was suspended by the feet and hands, in a bent posture, for twelve hours, after which an enormous flux of urine occurred, with profuse perspiration and entire disappearance of the œdema. His weakness, however, continued, and the superficial abdominal veins were seen to have increased in size. They continued to enlarge during the next two years, at the end of which time the collateral circulation was entirely re-established, so that he was able to work. From time to time, however, the circulation proved insufficient for the needs of an active life, and various troubles supervened. Stasis occurred in the lower limbs, the walls of the vessels degenerated, ulcers, eczemas, and purpura resulted, and various dark pigmentary deposits appeared over the body, limbs, and mucous membranes. Ultimately visceral hemorrhage occurred, which led to the patient's death.

At the autopsy it was found that the inferior vena cava, from its bifurcation to three fingers' breadth above the origin of the renal veins, was reduced in size and filled with a calcareous concretion to which the walls of the vein were united by a dense tissue, although the cavity was not quite obliterated. Both kidneys were greatly enlarged, the right being the seat of many old hemorrhages. The blood from the right kidney passed partly into the inferior vena cava by the renal vein, which was still permeable, and partly by the inferior diaphragmatic veins. The blood from the left kidney found a freer course by the splenic vein and inferior diaphragmatic veins. The enlargement of the cutaneous abdominal network of veins was very great, their average size being that of the little finger. They led the blood from the lower limbs and part of the pelvic organs into the superior vena cava, either by the axillary and jugular veins, or by the azygos vein and its tributaries. The blood of the hypogastric venous system returned in small quantity by the vena cava inferior, but chiefly by cutaneous network through the anastomosis of the spermatic with the external pudic and the obturator with the epigastric, and, thirdly, by the azygos vein through the lumbar veins. It is interesting that during life great irritability of the muscular coat of these dilated cutaneous veins was noted, so that they contracted distinctly on mechanical irritation, and contraction of several hours' duration could be obtained by the subcutaneous injection of ergotin or the application of the induced current.—*Lancet*, Feb. 13, 1875.

Psammoma of the Dura Mater.

At a recent meeting of the Pathological Society of Dublin, Dr. EDWARD W. COLLINS presented an interesting specimen of this form of tumour. In exhibiting it, Dr. Collins observed that the small tumour he laid before the Society derived its interest solely from its histological features and pathological connections. It was taken from an elderly subject in the Anatomical School of the University, during the removal of the brain. It grew from the inner endothelial surface of the left side of the falx cerebri, where it was attached to the crista galli. It projected into the subdural cavity, and had hollowed out

a slight depression upon the overlying convolutions of the left frontal lobe of the cerebrum. It was soft in consistence, so as readily to separate from its attachments, about the size of a walnut, rather more oval than round, and of a grayish-white colour. When hardened in spirit it exhibited microscopically the appearances characteristic of the tumour to which the names "psammoma" and "angiolitic sarcoma" have been given. A fibrous investment and fibrous stroma constituted the chief bulk of the tumour. Embedded in it were very minute isolated calcareous particles of brain sand, reflecting light and presenting their peculiar concentric lamellar arrangement when examined under a high microscopic power. They varied somewhat in number and size in different parts, but were chiefly remarkable for their very small size and scanty distribution throughout the fibrous elements of the tumour. The tumour was also remarkable for its vascularity. Some of the sand particles bore a suspicious proximity to the walls of the bloodvessels, though no such definite connection with the vascular wall could be clearly ascertained as led Ranvier to the conclusion that they were primarily deposited in ampullary dilatations of the walls of the vessels, from which they subsequently became detached. No cells were found in the tumour differing from those proper to sarcoma, so as to favour the epithelial mode of development as suggested by Meyer and Robin; but in some instances the concentric arrangement of the spindle cells described by Steudener was observed. The view of Virchow, that such tumours were hyperplastic formations, owing their origin to increased development of the sand-formations which physiologically are found so frequently on the inner surface of the dura mater and in connection with the choroid plexuses, seemed to Dr. Collins the most correct as regarded the specimen he exhibited. Apart from its special pathological characters, the tumour was interesting, as only one other specimen of this form of tumour had been brought before the Society, two years since, by Dr. Yeo, which would be found to differ in not a few respects from that Dr. Collins had detailed.—*Med. Times and Gaz.*, Jan. 30, 1875.

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On a Fibrinous Substance on the Pia Mater of the Insane.

Dr. CLOUSTON has a note in the *Journal of Mental Sciences* (January, 1875) on the occurrence of an organized fibrinous substance formed during life in the veins of the pia mater and brain in those dying during the "typhoid" stage of acute insanity. A female was admitted in a typhoid state, after a short attack of acute maniacal excitement. She was almost comatose, being only roused on one or two occasions during the two days she lived. The pulse was 120, very weak; temperature 103.8°; the face and neck were dusky and flushed, apparently from vaso-motor paralysis of all the branches and capillaries of the external and internal carotids. She died comatose. At the *post-mortem* examination, there were found in the veins, both small and large, of the pia mater, small white pearly-looking bodies, that appeared at first like limited white thickening of the venous coats, but were found to be masses of organized fibrinous material. In many places they were attached to thin strings of the usual *post-mortem* clot, and the difference between the two structures was very great. A microscopic examination showed this still better. Instead of the ordinary white corpuscles, caught up in the meshes of innumerable fine fibres of white *post-mortem* blood-clots, those masses consisted of bodies like the white blood-corpuscles, but much larger, with distinct nuclei and nucleoli, and, instead of the fine linear fibres, there were fusiform cells cohering strongly, among which those bodies lay in regular parallel rows. The whole of the brain was dusky and congested, with much blood-crystalline matter through it. The cells of the convolutions were very granular.

Dr. Clouston has since met with the same appearances in a less degree in a general paralytic, who died comatose in a congestive attack.

Is it possible, he asks, that in these cases the vaso-motor paralysis and blood-stasis, which form so essential a feature in the typhoid condition of acute insanity and the congestive attacks of general paralysis, had gone on to a still further stage, when the white corpuscles began to adhere to the inside of the walls of

the vessels, gradually accumulating and becoming organized into the masses described?—*Lond. Med. Record*, Jan. 27, 1875.

On Tubercle in the Ganglia of Nerves.

In the *Gazetta delle Cliniche* of November 17, 1874, Dr. COLOMIATTI publishes a brief preliminary communication on the occurrence of tubercle in the ganglionic nervous system, promising more complete details at a future period.

In the body of a girl who had died of diffuse tuberculosis, he found a nodule of the size of a vetch, mostly caseous, in the last left dorsal ganglion but one of the great sympathetic, a similar nodule on the communicating branch between this ganglion and the one above it, and another on the last left dorsal branch of the spinal system communicating with the sympathetic. Microscopic examination showed that these nodules were tubercular; tubercles were found in the connective sheath of the ganglion, and in the perineurium of the above-named nerves, projecting inwards towards the nerve elements. There were also tubercles in the interior appendages of the sheath in the ganglion.

In a lady who died of pulmonary and intestinal tuberculosis, and also during life had violent and continuous intercostal neuralgia on the left side, Dr. Colomiatti found at about the middle of the part corresponding to the neuralgia several nodules, almost all of cheesy consistence, involving the nerves and vessels. These nodules were tubercular; tubercles were also found in the cellular sheath of the vessels, and in the perineurium of the nerves.—*Lond. Med. Record*, Jan. 27, 1875.

Spinal Meningitis treated by Chloral.

The *Archives Générales de Médecine*, for 1874, contains the records of a case of spinal meningitis, probably of rheumatismal nature, which was cured by the administration of chloral. The patient was a man aged thirty-seven, a carrier, working almost constantly in water, but never having been troubled with rheumatism. He had been attacked three weeks before he came into the hospital with fever, accompanied by cephalalgia, anorexia, then with cramps in the calves of the legs and thighs, with pain in the posterior region of the neck, followed by permanent contraction of that region. When he was admitted into the hospital, on November 29, 1873, rigidity and contraction of the muscles of the posterior cervical region, pain at the level of the vertebral spinal apophyses, and a little want of sensation in the arms were present, as well as a contraction of the muscles of the thigh and leg, which imparted forced extension to the lower limbs, with complete anæsthesia extending from four inches below the femoro-tibial articulation to the ends of the toes. The muscles of the lower limbs were agitated by fibrillary contractions. The only cerebral symptoms were the diffused cephalalgia, which had been present for three weeks, and some sensations of confusion. There was no functional trouble of the rectum or of the bladder. The initiatory fever had disappeared. The pulse was 76, and the temperature was at 38.8° Cent. (101.84° Fahr.). All these symptoms disappeared towards March 1, after various remissions, and by March 20 the patient was completely cured. The contractions, the painful cramps, the anæsthesia with spontaneous pains, the absence of cerebral troubles, the immunity of the bladder and the rectum, the absence of all paralytic or paresic manifestation, and the comparatively rapid cure, all made the diagnosis of spinal rheumatism admissible. The treatment employed certainly produced the best effects. Opium successively associated with sulphate of quinia, with tartar emetic, and with belladonna; then iodide of potassium in conjunction with belladonna, baths, dry and wet cupping, etc., only gave a very small amount of ease. Chloral only, administered for several days in progressively increasing doses, from three to nine grammes (45 to 135 grains) *per diem*, in divided doses, was immediately followed by a very remarkable improvement, especially in relation to the tetanic symptoms. It is necessary in these cases to employ somewhat large doses, since it is demonstrated that narcotics or sedatives are only efficacious in convulsive

affections of the spinal system, either clonic or tonic, when they almost approach the poisonous dose. In this case symptoms of intoxication only appeared late, and consisted merely of sleepy hebetude, a species of mild intoxication without excitement, hallucinations, dreams, without any change in the contractility of the pupil or any visual troubles.—*Lond. Med. Record*, Jan. 27, 1875.

On the Eye in General Paralysis.

Dr. MOBÈCHE (*Annales Medico-Psychologiques*, November, 1874) contributes an article on the condition of the eyes in general paralysis of the insane. The early writers, he says, in their accounts of this disorder, made no mention of the state of the eyes. M. Baillarger was the first who paid particular attention to it. Other observers are MM. Lasègue, Moreau de Tours, Marcè, Dagonet, Billod, and Ach. Foville. The chief point to be noted is the inequality of the pupils, which is sometimes very marked, sometimes very slight. It may depend on the dilatation of one pupil, or on the contraction, though this is far less frequent. The contractility of the iris is often affected, and it does not readily contract or dilate. This does not depend on any adhesions, for it dilates readily under atropia. Not only is there inequality of the pupils, but in a considerable number of patients the opening of the iris has lost its circular shape, and assumed a variety of conformations. When it is contracted, its contour is almost always irregular, angular, or elongated. Even the pupils which are normal in size are often altered in shape. Sometimes they are elliptical, sometimes they become quadrilateral or triangular, instead of circular, or they may be circular in half or two-thirds of the circumference, and polygonal in the rest. At the commencement of the malady the changes take place frequently; but the writer has never seen a dilated pupil return to its normal size while its fellow was in turn dilated. The alterations were always observed in the same pupil. He is of opinion that defective vision is common in general paralytics, but is not discovered unless accurate methods of testing it are employed. This weakening of sight is due to the dilatation, and not to any affection of the retina, for if it is overcome artificially, the sight is as good as that of the other eye. As to the causes of this inequality authors differ. M. Billod thinks it due to a lesion of the oculo-motor nerve, on which the contraction of the iris depends. M. Voisin finds it in the great sympathetic, and its effect on the radiating fibres of the iris; when it is paralyzed, it contracts. Dr. Mobèche thinks it may be due sometimes to the one cause, sometimes to the other, or that the retina may become insensible, and dilatation take place without lesion either of the oculo-motor or of the sympathetic. Such defects as amblyopia and amaurosis are not, he thinks, common in general paralysis, but may be found if carefully looked for, and are often overlooked, because they are confined to one eye; neither is the amaurosis complete, but a certain degree of sight remains. Both the latter, and also paralysis of the third nerve, have been found before general paralysis had appeared.—*London Medical Record*, Feb. 17, 1875.

On Cotton-Wool in the Ears as a Prophylactic and Curative Application in Coryza and Sore Throat.

A correspondent informs us (*Practitioner*, February, 1875) that colds in the head or sore throat may frequently be prevented by placing cotton-wool in the ears when an attack is feared. Even when the attack has commenced, it may be cut short by the same simple application. If one side of the nose or throat only be affected, it is sufficient to place cotton-wool in the corresponding ear. In some cases it is unnecessary to do more than plug the orifice of the auditory meatus, but in others having delicate ears it is advisable to cover part of the concha as well. The beneficial effects of the application are most marked in those who have a large meatus or a thin and delicate ear, and are less distinct when the meatus is small or the ear large and thick.

A little consideration will show that this proposal is by no means unlikely to

be of practical use, and at the same time to throw some light on the causation of internal inflammations. Inflammation of any part of the body is sometimes produced by irritation in another part closely connected with the first by means of the nervous system. In the case of the ear it is easy to see how an irritant applied to it may lead to sore throat. Brücke mentions in his *Physiologie*, and any one can readily verify his statement, that if a paper spill be pushed well into the auditory meatus, and moved about, a feeling of tickling will be felt in the throat, and if the irritation be continued coughing will ensue. The reason of this is, that the vagus nerve gives off one branch (the ramus auricularis) to the ear, and another branch (the superior laryngeal) to the larynx, as well as branches to the pharynx. When the ramus auricularis is irritated by the paper spill, the irritation is not rightly localized by the nerve-centres, but is felt as if it had been applied to the laryngeal and pharyngeal branches of the same nerve.¹ And, if irritation of the auricular nerve by a paper spill thus causes a sensation exactly resembling the effect of irritation applied to the part supplied by the laryngeal and pharyngeal nerves, it seems by no means improbable that a continuous irritation applied to it by a draught of cold air may actually cause inflammation in the pharynx, while its protection by cotton-wool in the meatus may prevent any such consequences, in somewhat the same way as a covering over a horse's loins greatly lessens the risk of nephritis. The renewed application of the same irritant which has produced the inflammation may, and probably does, tend to keep it up. The cotton-wool, by preventing this renewal, may exert a curative as well as a prophylactic action. The effects of cotton-wool on cold in the head are more marked than upon sore throat; but it is not quite so easy to show the nervous communication between the ear and the nose as between the ear and the pharynx.

It is not unfrequently observed that cold is more readily caught from a draught playing on the side or back of the head, than from one meeting us fairly in the face and blowing directly down our throat; and these observations on the nervous connections between the ear and the throat may help us to understand the cause of this, and suggest to us the propriety of delicate persons carefully protecting the sides of the head as well as of wearing a comforter.

It must be borne in mind that strumous children, who are liable to colds, often suffer from discharges from the ear; and care must be taken that cotton-wool is not recommended indiscriminately and applied carelessly, as it might lead to the discharges accumulating in the meatus and doing mischief.

Colds in the head and throat are so common and troublesome, and the remedy is so simple, that it well seems to deserve a trial. Our correspondent is specially subject to colds of an unusually severe and oppressive character, yet he has, by the use of cotton-wool, and by experience in the mode of employing it, been able to stave off during nearly seven years any heavy cold in the head. Sore throats in the same case are always much benefited by it, and bad colds on the chest, though not cured by it, are invariably much mitigated. It may be used as a valuable preventive when travelling in cold weather, or when exposed to draughts.

Croup and Diphtheria.

The distinction between, or the identity of, croup and diphtheria has been for many years a subject of frequent and sometimes warm discussion; and the relation between the two diseases cannot, even now, be considered as withdrawn by anything like a consensus of opinion from the region of controversy. The subject is one of equal interest to the pathologist and the practitioner: to the one the question in dispute involves that of the diverse origin of specific processes so nearly identical in the two cases, while to the other it contains

¹ The converse is also noticed occasionally, for a patient suffering from ulcerated sore throat has complained to me of a pain in the ear coming on whenever she spoke. There the irritation was evidently applied to the pharyngeal branches of the vagus and transferred to the auricular branch.—Ed. *Pract.*

that of the origin and spread of a common disease, whether by contagion or otherwise, and the conclusion affects immediately the mode of treating and managing the complaint.

It need hardly be said that it is concerning true membranous croup that the discussion has arisen. Is this disease identical with the laryngeal diphtheria to which it has so many points of resemblance?—or are the points of difference between the two diseases, in etiology and pathology, so considerable and so defined as to justify their separation as distinct maladies? From the time of the clinical distinction of diphtheria—for which we are indebted to the sagacity of Bretonneau—the French school of physicians has, as a rule, urged strongly the identity of the two affections, and Trousseau has ably supported that view. In Germany opinion has been more divided; but in that country, both during the remarkable discussions on the subject which took place at Berlin and Dresden in 1872, and in various publications before and since that time, the balance of expressed authority has inclined to the opinion that the diseases are distinct. In this country, on the whole, the same view has received most general acceptance. Our readers will, however, have noted with interest the recent coincident expression in our columns of the opposite opinion, in the most precise and emphatic manner, by two physicians whose verdict must on this subject be allowed to have greater weight than that of any others—Sir William Jenner and Dr. George Johnson. By both the diphtheritic nature of true croup is strongly urged, and on grounds which must be admitted to be both forcible and clear.

Those who have advocated the distinctness of the two affections have urged, as grounds of their separation, their specific morbid anatomy and definite clinical course. Chemical, microscopic, and anatomical distinctions have been found in the membranous production which marks the inflammation in the two diseases. The membrane has been said to consist, in one, of a deposit of fibrin; in the other, of an albuminous material. In the one only pus-cells embedded in the meshes of the fibrinous material are described; while the other is said to be made up of epithelial cells which have undergone a peculiar degeneration, of which Wagner has given an elaborate description. But, unfortunately, authorities are by no means agreed which of the distinctive characters correspond to each disease. The histological characters which Wagner and Senator give to diphtheria, Nassiloff and Boldyrew, who equally deny the identity of the affections, assign to croup. The only point on which all are agreed who advocate the distinction between the two diseases is, that the affection of the mucous membrane is more profound in diphtheria than in croup, the morbid process involving its substance instead of its surface, and leading as a consequence to more marked vascular changes, plugging of the vessels with masses of white blood-corpuscles, and small hemorrhages into the tissue. But it is obvious that this distinction is one rather of degree than of specific difference, and cases are not rare in which, as in one described by Boldyrew, the same difference may be found between different portions of the exudation in the same case; and other writers on the same side—West in this country, and Hassenstein in Germany—have to confess that between the slighter attacks of diphtheria and croup no specific anatomical distinction can be made.

Pathological anatomy thus, it must be confessed, fails to establish any constant differences between the two affections. How far do clinical characters bear out the alleged distinction? The points of difference which have been relied on are—the origin of the disease, in one case by contagion, in the other by the ordinary causes of simple inflammation; the extension of the diphtheria by infection to others; the circumstances that in laryngeal diphtheria several days of illness commonly precede the laryngeal symptoms, and that albumen in that affection is commonly present in the urine. But, as Sir William Jenner so clearly shows, in practical experience, these diagnostic symptoms break down. Cases of undoubted laryngeal diphtheria may arise from an influence which will in another person produce a simple inflammation. The majority of the cases of sporadic diphtheria are referred to cold as their cause. This circumstance destroys all the distinctive value which Senator assigns to the fact that a more violent irritant—as a scalding fluid—may be the exciting cause of a

croupous inflammation. Any constitutional condition which determines the occurrence of a diphtheritic inflammation after exposure to cold may equally determine the same result on the application of any other simple irritant. Moreover, cases, apparently, in all other conditions of origin and course, of simple croup, may have albumen in the urine; and to assume that all the cases in which this symptom is present are instances of diphtheria is, it is hardly necessary to say, simply to beg the question. Preceding ill-health may be more frequent in diphtheria than in croup, but instances of cases of pharyngeal diphtheria, in which the false membrane was one of the earliest symptoms of the disease, must have come to the notice of most practitioners.

Thus neither any one of these symptoms nor any combination of them can be relied on as affording grounds for separating the two diseases. Nor is the age at which croup occurs any reason for their separation. Age exercises a marked effect in modifying the course of many diseases even where it does not determine their occurrence. A difference in course is not, however, held to be a sufficient reason for inferring a specific difference in nature. The larynx manifests a remarkable susceptibility to suffer in early life. Catarrhal laryngitis is a much less frequent and less severe disease in the adult than in the child. Laryngismus stridulus is confined to the infant. There is thus nothing unparalleled in the fact that diphtheritic inflammation is in the child a much more frequent laryngeal trouble than it is in the adult.

It would be a decided gain if the word "croup" could be abolished altogether from scientific description and debate, or, if employed, be confined to a strictly symptomatic, as "apoplexy" is now applied to a definite, symptom, irrespective of its cause. It would be better perhaps to get rid of the term altogether, but it is hard, if not impossible, to discard terms which have become firmly fixed in the popular pathology. Much confusion has, however, arisen from its use. As we have said, the pathological anatomy of catarrhal laryngitis is in some standard treatises included under that of croup, while some authors have, on the other hand, described by the same term cases of unquestionable diphtheria, as in the instances in which false membrane extends into the pharynx. "Simple," "purulent," and "membranous" laryngitis are names sufficient to include with precision all forms of inflammation of the larynx, and the discussion of the nature of the last-named affection could be carried on to a clearer issue.—*Lancet*, Jan. 30, 1875.

Causes and Nature of Diphtheria.

In an interesting communication to the *Virginia Medical Monthly* (Feb. 1875) Dr. J. LEWIS SMITH, Physician to New York Infant Asylum, states, that, as regards the relation of bacteria to diphtheria, it is evident that the truth lies in one of two hypotheses—"either that these parasites are the specific virus, and therefore cause the disease; or that the cause is something more subtle not yet discovered, which so alters the tissues and the blood that they become a nidus in which the bacteria are early and quickly developed, so that from being few and innocuous in the system, they occur in myriads.

"My own belief is more and more confirmed that the latter is the true theory, and that Oertel and his associates have mistaken a consequence for a cause. I have lately, with my friend, Dr. Keitzmann, recently of Vienna, a most excellent microscopist, examined the secretions and exudations upon the fauces in various cases of pharyngitis, both diphtheritic and non-diphtheritic; and we have always found the micrococcus in abundance in the inflammatory product, whether diphtheritic or non-diphtheritic, a secretion or exudation, if it had remained for some time upon the surface of the fauces. In one case of simple pharyngitis no micrococcus could be discovered on the first day in the secretion which lay in the depressions over the tonsils, while on the second day numerous micrococci had appeared. The micrococcus in the inflammatory product upon the fauces certainly does not indicate disease of a specific nature. Does not also the general prevalence of inflammatory throat affections, some of which are very mild, during an epidemic of diphtheria, indicate an obscure meteorological cause of the disease quite distinct from the bacteria?"

The Surgical Treatment of Cavities in the Lungs.

Dr. C. A. EWALD calls attention (*Irish Hospital Gaz.*, Feb. 1, 1875) to a paper by Dr. KOCH, in the *Berlin. Klin. Wochenschrift*, 1874, No. 16, which is entitled "The History of the Surgical Treatment of Cavities in the Lungs." In it Dr. Koch shows that the topical treatment of lung cavities was familiar to Hippocrates, and that from his time down to the present, there has been an unbroken chain of authors on this subject, the latest among whom are Storks, Mosler, and Pepper.

Dr. Koch rightly questions the possibility of making any appreciable impression on a cavity, when once fully formed, either by direct or indirect treatment with antiseptic or irritating substances. This opinion is strengthened by the very unfavourable results published by the earlier operators. From experiments made on dogs, it has been shown that the injection of a strong solution of iodine into the parenchyma of the lung, causes circumscribed inflammation at the seat of the injection without giving rise to any general constitutional symptoms. Hence, it would seem possible that the impregnation of lung tissue, which was the seat of fresh and circumscribed tubercular degeneration, with powerful irritants, might lead to the destruction and subsequent cicatricial contraction of such diseased portions.

Dr. Koch has therefore, in conjunction with me, made a number of experiments on the effects of the injection of a strong solution of iodine into phthisically diseased lungs, choosing as far as possible those cases in which the disease was recent and circumscribed.

The solution used was one part iodine and one part iodide of potassium, to twenty parts of water. The instrument used was a Pravaz syringe, and at least five injections were made at each sitting. We were able by partly withdrawing the canula and re-introducing it in a new direction, to inject from thirty to fifty different points in the diseased portion of the lung. As this operation caused a considerable amount of pain, and as each patient had to undergo it from three to four times, we thought it better to put them slightly under chloroform before operating.

In no case was the operation followed by any unpleasant symptoms of reaction, and only when, by chance, the canula pierced a small bronchus, was the patient attacked with violent coughing with the expectoration of a brownish secretion. This happened, however, but seldom; for we soon learned to distinguish by the sense of greater or less resistance offered to the canula, the soft and healthy lung tissue from the harder diseased portions.

In quite a number of cases we remarked that the temperature, which before the operation was that of hectic fever, sunk immediately afterwards to normal, and remained there for several days. In no case did the patients complain of the pain continuing after the operation.

The results, however, fell far short of our expectation; for in no case were we fortunate enough to arrest the phthisical tendency. The disease seemed to run its ordinary course, and in no case where we had the opportunity of making a *post-mortem* examination, did the eaten-away lung tissue show any evidence of having been in the least affected by the injection.

As the benefit of the temporary fall in temperature seemed to us out of all proportion to the risk run from the exhibition of chloroform, we felt bound to put an end to these experiments on which we had expended so much time and trouble.

Some time afterwards I had the opportunity of seeing the effect produced on sound lung tissue by the injection of a strong solution of carbolic acid, the operation itself not being followed by any symptoms of reaction.

A man was admitted into hospital with well-marked symptoms of acute, circumscribed gangrene of the lower lobe of the right lung. The signs of there being a cavity were most unequivocal in the fourth intercostal space, on a line with the nipple. This was therefore the point chosen for the operation, and 0.1 gram. of carbolic acid dissolved in 1.0 gram. of aqua dest. was injected into the lung. The man died eight hours after the operation.

It was shown at the *post-mortem* that the fluid had not found its way into

the cavity, but had been injected into comparatively healthy lung tissue, just above its upper border. At the seat of the injection a slight reddening of the plenra was observed, and in the lung itself there was a well-marked patch of pneumonic inflammation about the size of a hazel-nut.

Of course it is impossible to determine whether the inflammation would have spread, or whether it would have contracted and formed a circumscribed cicatrix, like that observed after the injection of a solution of iodine into the lungs of dogs. Considering the rapid way inflammation spreads, and that the patient lived for eight hours after the injection, it seems probable, that if the former were the case, a larger portion of lung tissue would have become involved than was actually found to be so at the *post-mortem*. I am therefore inclined to think that the inflammation was entirely localized, and corresponded to the lobular pneumonia of Virchow.

I have often been struck with the impunity with which the lung may be pierced with the canula of a Pravaz syringe in doubtful cases of pleurisy, where an exploratory puncture is made to aid in clearing up the diagnosis. I will, however, return to this subject when I come to speak of the theories on which our treatment of pleurisy is founded.

On a Peculiar Affection of the Bowels, Sympathetic Glands, and Lacteals.

The *Allgemeine Wiener Medicinische Zeitung* for December 15, 1874, contains a report of a paper read by Professor Klob on December 11 at the Imperial Gesellschaft der Aertze. He says he has met with five cases of an affection hitherto undescribed, although some analogous cases are recorded. In his cases, persons apparently healthy were attacked with symptoms which gave rise to the suspicion that they were suffering from typhoid fever. In one case the diagnosis fluctuated between this and enteritis. In another, acute peritonitis of a rapid kind was diagnosed. Of the five cases, four were brought into the hospital in a comatose and dying condition, and only one, a woman aged thirty-three, was one day under observation. Her symptoms consisted of violent pains in the hypogastric region, and the rapid occurrence of somnolence and coma with vomiting. There was a high temperature (103.6° Fahr.), and rapid pulse, becoming uncountable and thready. The patient died comatose.

Post-mortem examination showed the following appearances. The body was strikingly pale. There were no changes in the nervous centres, and only accidental changes in the lungs, such as oedema; there were no particular cardiac changes; though in some cases the heart was much softened, this was not constant. The blood had lost its beautiful red colour, and had a livid hue. Microscopic examination showed increase of its colourless corpuscles. The liver was soft, in one case chocolate-brown. The spleen in all the cases was about half as large again as normal, though less than in typhoid fever. The stomach and valvulæ conniventes of the jejunum showed striking changes. There were hemorrhagic erosions in the former. Some of the transverse folds of the jejunum were swollen in the middle. This tumefaction was fairly resistant, and tolerably hard. The hardness was easily seen to be due to infiltration, beginning at the base of the fold, and extending into it. This infiltration consisted of blood. Sometimes just at the margin of the fold there was a slight loss of substance, covered with a small necrotic scab. This yellow, or yellowish-brown scab, was surrounded by a dark red colour. The adjacent fold had similar appearances, and in different degrees these were repeated, so that the further the bowel was examined in a descending direction, the less infiltration there was, the ileum being quite free from any such changes. The kidneys were always pale. The next remarkable appearances were found in the mesenteric glands belonging to the jejunum; they were as big as hazel-nuts, dark red, and had their capsules distended and separated from their substance by extravasations; and their parenchyma itself was infiltrated—as were their lymphatics, and the thoracic duct itself—with blood. Microscopic examination showed simple hyperplasia of the lymphatics, and adenoid formation in the jejunum.

To what category, says Dr. Klob, shall these cases be referred? The similarity of their symptoms and morbid anatomy leads one to infer that the affection is a specific one. We must not forget Virchow's leukaemia, and Wunderlich's pseudo-leukaemia; in the latter the lymphatic glands swell, and the patient becomes exhausted without any changes in the blood—the lymphatic glands exhibit simple hyperplasia. Langhans and Virchow both divide malignant lymphosarcomata into hard and soft. The former asserts that a certain malignity must often be attributed to quite simple hyperplastic conditions of lymphatic glands—and it seems that the soft lymphosarcomata run a less rapid course than the hard ones. Langhans points to metastases as the proof of their malignity. The cases of pseudo-leukaemia do agree in many respects with those recorded above. But the rapid course, without metastases, the decided tendency to hemorrhage and necrosis, distinguish these cases from pseudo-leukaemia, which is always more chronic in its course. Enteric fever, which is always a lymphomatosis, must next be considered. But these cases lacked most of the striking symptoms of typhoid fever, in which there is less tendency to hemorrhage, if we except the epistaxis sometimes found in its early period, and the intestinal hemorrhages sometimes found toward its close. The author considered these cases to belong to a group intermediate between pseudo-leukaemia on the one hand, and typhoid fever on the other. Another case was adduced, in which the occurrence of cicatrices led to the belief that these changes had been previously passed through.

Professor PATRUBAN, in commending the paper, pointed out how deficient our knowledge of the pathological anatomy of the lymphatic system is. He thought the appearances named might be explained by the tenderness of the stroma, and the thinness of the venous coats of the mesenteric glands compared with other lymphatic glands. The splenic enlargement is explained by the well-known functional homology of these organs—the lymphatics being found enlarged in cases in which the spleen is removed from animals. The permeability of the glands is much affected by various diseases, such as tuberculosis, cancer, melanosis, sarcomata, enteric fever, etc., so that it could often be predicted that such and such glands would bear injection, while others would not allow it.—*Lond. Med. Record*, Feb. 3, 1875.

Perityphlitic Abscess.

Dr. J. W. S. GOULEY, of New York, read before the New York State Medical Society (*Medical Record*, Feb. 13, 1875) a paper on "Perityphlitic Abscess, due to Perforation of the Appendix Vermiformis, together with Remarks on the Subject of Treatment thereof." The paper was based upon the notes of twenty-four cases, of which the following were not mentioned by either Drs. Lewis, Bull, or Buck, in their papers on this subject, viz.:—

Of Dr. Kelsey's, 1,¹ Dr. Whital, 1,² Dr. J. C. Hutchinson, 2,³ Dr. H. Bonticou, 2,⁴ Dr. C. A. Leale, 2,⁵ Dr. J. H. Pooley, 1,⁶ Dr. J. W. S. Gouley, 1.

Dr. Gouley's case was a man, aged thirty-seven, who had for some time been the subject of hernia, for the relief of which he wore a truss. He frequently suffered from attacks of tenderness, in consequence of which he was often obliged to remove or change his truss. He came under the doctor's care in June of 1873, for treatment during an unusually prolonged and intractable attack of this sort, when his wife reminded him that two years before he had swallowed a fragment of a tooth. He had at that time a swelling in the right iliac fossa, which, after an interval of improvement, became larger, extending over towards the median line of abdomen; fever and delirium supervened, and in August it opened spontaneously. No foreign body was noticed in the discharged matter. Improvement which occurred at once resulted in cure in December. In Feb. 1874, another attack occurred. A consultation was held

¹ Med. Record, Dec. 1874.

² Med. Record, May, 1874.

³ Communicated.

⁴ Trans. N. Y. State Med. Soc. for 1873.

⁵ Communicated.

⁶ Communicated.

with Dr. Willard Parker, and after a time the tumour was opened freely. A careful examination was made, without resulting in the discovery of a foreign body. The patient recovered without the recurrence of his hernia.

As a result of the study of this, and the history of the other cases reported, Dr. Gouley believed that when a spontaneous discharge of the contents of the abscess occurred, the opening should be enlarged sufficiently to permit a thorough exploration and emptying of its cavity, and that when opened artificially, it should not be done before the seventh day. In a subsequent statement, the doctor called attention to the necessity for the removal, at the same time, of the diseased appendix.

Dr. THOS. F. ROCHESTER, of Buffalo, said that it had been his misfortune to have between fifteen and twenty cases of this sort in his practice, thirteen of which ended fatally. In those examined the foreign body was found in the majority, either in the appendix or escaped. The mass was often not a foreign body, properly speaking, but a collection of phosphates derived from the secretions of the intestine, mixed and coated with feces. He thought it very rare that foreign or other bodies got into a healthy appendix, and thought that there were almost always previous catarrhal symptoms.

Dr. ERNEST KRACKOWIZER, of New York, gave his experience in this affection, saying, among other things, that the appendix sometimes becomes fixed by inflammation, when the movements of the intestine are sufficient to produce its dilatation and consequent admission of foreign bodies.

He cited the case of a boy who had fecal fistula into the bladder and said that the inflammation sufficient to cause the disturbance may have been during the fetal life of the patient.

The Pathological Significance of Nematode Hæmatozoa.

Staff-Surgeon T. R. LEWIS, M.B., whose name is so honourably connected with admirable scientific work and original investigation on this subject, as well as with researches on cholera, has contributed an article, illustrated by excellent plates and wood engravings, to the Tenth Annual Report of the Sanitary Commissioner with the Government of India, in continuation of his previous observations. It will be remembered that Dr. Lewis, in a monograph that appeared as an appendix to the Annual Sanitary Report for 1871, announced his discovery of a microscopic nematode worm in countless numbers in the blood. This further paper, as well as the second series of a conjoint report by Drs. Lewis and Cunningham of their microscopical and physiological researches into the nature of the agent or agents producing cholera, will thoroughly repay careful perusal. We must, however, restrict ourselves to noticing Dr. Lewis's fresh contribution to the subject of our heading, and we cannot do better than adhere closely to his own summary. Dr. Lewis says that it is very difficult to embody their substance in a few words without risk of misinterpretation; but those interested in the subject will, we doubt not, refer to the paper itself.

Our author arranges his remarks under two heads: (1). the chief reasons for the belief that chyluria and the elephantoid state of the tissues are associated with the presence of a microscopic hæmatozoon; and (2). in what manner, such connection being satisfactorily established, this fact can aid us in offering an explanation of the evidence we possess that the disease is due to mechanical interpretations to the flow of the nutritive fluid in the capillaries and lymphatics.

With regard to the first, Dr. Lewis states that detailed histories of a considerable number of individuals affected in this manner have been published by him, and that in all the *Filaria sanguinis hominis* has been detected. He has now traced the filariæ to the blood direct in eleven, and detected them in one or other of the various tissues and secretions of the body in more than thirty individuals. The history of one of these persons could not be ascertained, but all the others were known to suffer, or had suffered, from chyluria, elephantiasis, or some such closely allied pathological condition.

With reference to the second head, our knowledge is not so exact, and almost all the inferences have to be drawn from observations made in connection with

the hæmatozoon described as occurring in parish dogs. Judging from what may be seen in these, and from data derived from those post-mortem examinations which have been made of individuals affected with this parasite, Dr. Lewis thinks that the interference with the flow of fluid in the lymphatic capillaries and smaller bloodvessels may not unreasonably be attributed to one or other of the following causes: (a.) To tumours produced by encysted mature entozoa along the course of the bloodvessels and lymphatics, impeding the flow of fluid in them by pressure either directly or indirectly by interfering with the functions of the nerves supplied to the part. (b.) To the active migration of the immature, or rather partially mature, parasite, the act of perforating the tissues—nervous or vascular—producing more or less permanent lesions. (c.) To the activity of the liberated embryos in the capillaries causing rupture of the delicate walls of these channels, in which possibly ova may have accumulated, owing to their size, or an aggregation of active embryos taken place, either accidentally or by the parent having migrated to the capillary termination of a bloodvessel, and there given birth to a brood of microscopic blood-worms. The walls of the capillaries once having given way, the embryos pass into the adjacent lymph channels, whose extremely delicate boundaries practically offer no impediment to the further progress of such active organism. If the lymphatic spaces be situated in intimate relation with a secreting surface, the escape of the minute filariæ, as well as the escape of fluid from the lymphatics, with the ordinary secretion of the part, would seem to be a natural consequence. Dr. Lewis has likewise discovered hæmatozoa in the parish dogs of India, and his observations in connection with this part of his subject are very interesting and likely to prove important.

What Dr. Fayrer had already suggested in his work, "Clinical and Pathological Observations in India," and still more recently at a meeting of the Pathological Society, as a possible occurrence, has turned out to be a fact, viz., that the presence of the *Filaria sanguinis hominis* links together, as by a common cause, that elephantoid condition of the subcutaneous tissues with chyluria with which it is so often associated. Dr. Lewis had previously inferred as much, and he has now proved it by having discovered this parasite in the circulation of persons labouring from both classes of diseases.—*Lancet*, February 6, 1875.

On Itch.

In a lecture reported in the *British Medical Journal* for January 23, Dr. TILBURY FOX remarks on the different aspect which scabies presents in hospital and in private practice. Well-to-do patients apply earlier for advice, when the acari are as yet few in number and confined to limited areas; the furrows also are not rendered visible by dirt; it is necessary to look at the skin obliquely in order to detect them. The secondary eruptions, which are a prominent feature in hospital cases, are often scarcely present in private patients. The consequence is that the disease, when first seen, is frequently not detected. Dr. Fox suspects scabies if a patient come complaining of nocturnal pruritus affecting the lower part of the abdomen, the inner part of the thighs, and the forearm or hands. He states also that such cases, when they are diagnosed, are often treated too energetically, so that more irritation is caused by the remedies than by the original disease. He orders a dilute sulphur ointment (half a drachm of sulphur to an ounce of lard) to be rubbed into the parts most affected, *e. g.*, the hands and penis, for three nights and mornings, and just smeared over adjoining parts. He then orders a soap-bath and change of linen, and after that waits to see if the irritation does not subside, or only orders some astringent or emollient application.—*London Med. Record*, February 17, 1875.

On Scleroderma.

Dr. LAGRANGE, in his *Contribution à l'Etude de la Sclérodémie avec Arthropathie et Atrophie Osseuse* (Paris, 1874), gives an account of a ne-

cropsy, which he performed on a patient who presented all the characteristics of sclerodermia, and of another case which came under his notice. The facts observed by him induce him to come to the conclusion that sclerodermia is originally set up by a chronic inflammation of the skin and the subcutaneous cellular tissue, which may go deeper, reach the bones and the articulations, and may bring on, as a secondary result, by anatomical lesion of the peripheric nervous filaments, some comparatively unimportant trophic disturbances, which are only of the second order. Nothing gives reason to rank sclerodermia as a primary trophic disturbance; the spinal marrow, nerves, and muscles, not having shown any considerable alteration on *post-mortem* examination.—*London Med. Record*, Feb. 17, 1875.

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On the Treatment of Malignant Pustule with Carbolic Acid.

In the *Berliner Klinische Wochenschrift* (No. 44), for November 2, 1874, Dr. KLINGELHÖFFER, of Heusenstamm, gives an account of five cases of malignant pustule observed and treated by him. All the patients were tanners, employed in the same tanyard at Offenbach. The sites of the pustule or charbon were as follows: in No. 1, the angle of the lower jaw; No. 2, the upper lip; No. 3, the side of the neck; No. 4, the upper eyelid; No. 5, the forearm. It is remarkable that only the latter was in a site directly exposed to contagion from the skins or hides. Nos. 1 and 3 were treated by caustic potash locally, and liquor chlori internally. The first recovered, the other died in forty-eight hours. The others, Nos. 2, 4, and 5, were treated by the pustules being cauterized, as deeply as possible, by the liquefied crystals of carbolic acid; strong solutions (one to eight) in water, or linseed oil being kept constantly applied afterwards, and the acid given internally. All three recovered, though none were seen till the second or third day. They were very severe cases. It is noteworthy that neither gave rise to fresh cases, although the last slept with six children and his parents in one room, and in the same bed with a case of acute eczema. Dr. Klingelhöffer recommends a mixture of ten grains of pure carbolic acid in six ounces of water; a tablespoonful being given every two hours. He considers the official doses (0.05 gramme, equal to $\frac{3}{4}$ grain as a dose, and 0.15 gramme, equal to $2\frac{1}{2}$ grains *per diem*) as too small. He has often greatly exceeded this. [The dose of the British Pharmacopœia is one to three grains, and the reporter has never seen bad effects from this, if well diluted. He has frequently given as much as ten grains in the twenty-four hours to adults, in appropriate cases, without any unpleasant effects.]—*London Med. Record*, Jan. 6, 1875.

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Surgery.

Tumour of the Optic Nerve; Removal of Tumour without Removal of Eyeball.

Dr. HERMANN KNAPP read before the Medical Society of the County of New York (*New York Med. Journ.*, March, 1875) an interesting paper on the above subject, and, in connection with it, presented a patient from whom he had removed a cancerous tumour of the optic nerve without removing the eye. He said tumours of the optic nerve were connected with either the outer sheath, the subvaginal portion, or the inner sheath, but that there were never noticed neuromata of the nerve itself. As regarded their histology, they were divided into the classes of Fibroma, Mixoma, Sarcoma, Glioma, Samoma, Carcinoma, and Cysts. The symptoms of the disease were mainly diplopia with exophthalmos, the eye being usually pressed forward and outward. There was a

peculiar mobility of the eyeball, from the fact that the tumour was connected with it. In some cases there existed amblyopia, from pressure on the optic nerve, but in others there was perfect acuteness of vision, but a limit in the visual field accounted for by pressure on a portion of the nerve. The prognosis was favourable as regarded life, but unfavourable to the eye. Treatment consisted in their removal. Dr. Knapp, before presenting his patient, gave an abstract of the history, which was mainly as follows: In 1871 the woman came under observation, suffering from severe periodic pain in the orbit and side of the head. There was no double vision, and she could count fingers at twelve feet. When examined by the ophthalmoscope, she exhibited a peculiar variety of choked disk, but the media were perfectly clear. This neuro-retinitis continued for three years. The diagnosis was difficult to decide on positively. She was given the iodide of potassium and mercury, but no benefit resulted. Last May she was again seen, when a distinct tumour was found on the inner side of the globe, moving with the eyeball. It was decided to remove the tumour, and Dr. Knapp proposed to do it, and endeavour if possible to retain the globe in position. An incision was made through the conjunctiva by means of the scissors, which were then carried in to separate the recti muscles. The finger was introduced through this opening, so as to detach the tumour from its connections, and the complete separation of the tumour was then made by the scissors. In the operation the optic nerve was severed, and the growth removed nearly as far back as the optic foramen. None of the muscles were severed, and the extraction was accomplished with less difficulty than was expected, although the tumour was one-third larger than the eyeball. The wound healed without difficulty; not a single drop of pus being observable. An ulcer appeared on the cornea on the fourth day, due, as will be hereafter seen, to action of a foreign body on the conjunctiva, and not to deficient nutrition of the organ. A point of interest connected with the case was, that the inner half of the conjunctiva was completely insensible, whereas the sensibility of the outer half was good, though dull. Dr. Knapp demonstrated this on the patient by touching the conjunctiva with a piece of paper. When the inner side was touched, she did not seem to notice it, but as soon as the paper was carried to the outer side she closed the eye. The eye was a little smaller than its fellow of the opposite side, but in all other respects closely resembled it. The pupil was dilated and immovable. Some time after the operation, the veins of the disk began to fill and enlarge, and then they became varicose. Eventually they ruptured and caused ecchymosis. Dr. Knapp showed different diagrams of the tumour, and said that it was of cancerous formation. It had no sheath proper, but was pyriform in shape, and embraced the optic nerve.

Dr. Knapp said that, as far as he knew, this was the first time that the eyeball had not been removed in the removal of a tumour of the optic nerve, and before its removal he was in doubt as to whether the eye could be nourished or not.

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On the Development of Short-Sight in Consequence of Overwork of the Eyes.

This paper, by Dr. SCHUEBEL, on the influence of fatigue of the ciliary muscles upon the development of myopia, was communicated to the Medical Society of Vienna (*Allgemeine Wiener Medizinische Zeitung*, October 27, 1874). It appears that there are at present two opposing theories as regards the formation of staphyloma posticum; the one holds that a congenital predisposition is essential to its development, and the other maintains that overwork on the part of the ciliary muscle is sufficient to produce it in any and in every kind of eye. The advocates of the latter theory assert that, in consequence of prolonged hard work, the ciliary muscle is seized with cramp and remains in a state of spasm; that hyperæmia and inflammation of the choroid are the result; and that these in their turn lead to the atrophy of some portion of the optic disk, and to the formation of the well-known myopic crescent which precedes the elongation of the eyeballs. Dr. Schnable considers this explanation to be in the highest degree improbable; for, instead of spasm being the out-

come of fatigue of the ciliary muscles, he would expect a relaxation; and he asks why this state of spasmodic cramp should occur frequently in cases of myopia when the need of the accommodation is but lightly felt, rather than in hypermetropia in which the demands upon the accommodation are excessive and persistent. He adds that, amongst two hundred and ten cases of hypermetropia, he had not been able to find a single instance in which this spasm had occurred—a fact which convinces him that any such cramp or spasm cannot be the cause of the elongation of the eyeball. He allows that, amongst one hundred and five eyes, Dobrowolski found sixty-nine in which there was spasm; that out of sixty-seven eyes, Hirsch found forty-six so affected; and amongst one hundred and one eyes, Schiess found fifty-one in which the myopia entirely or in part depended upon the cramp of the accommodation; but he believes that all of these observers have forgotten that a single instillation of atropia is sufficient to relax the accommodation, and at the same time to diminish the refraction in any kind of eye; and that a prolonged rest of the ciliary muscle is always attended with a marked diminution in the refractive power; that hypermetropes do not suffer from this kind of cramp; and that, while occasionally the refraction appears to be higher than it really is, owing to some anomaly in the accommodative power, yet this is not sufficient to prove the existence of a distinct muscular spasm.

The existence of a crescent most certainly cannot be said to be due to the struggles of the ciliary muscle in a state of cramp, because most perfectly formed crescents may be seen in eyes in which the accommodation has never been in the least degree strained; neither can a myopic crescent owe its existence to a painful exercise of the accommodation, for under such circumstances it should be circular, and not, as it is, semilunar in shape; it should be deeper on the inner than on the outer side, and should have its narrowest diameter on the outer side, whereas, as everybody knows, the reverse is generally the case in all these particulars; and it should occur, as a rule, in hypermetropic eyes, and as the exception in eyes which are myopic.

In conclusion, Dr. Schnabel considers that there are two kinds of crescents. One is congenital and entirely unconnected with staphyloma posticum; it may be met with in eyes presenting every variety of refraction, and may be looked upon as the analogue of choroidal coloboma; in this variety, the nerve-fibre layer of the retina and the pigment-layer of the choroid are more or less deficient. The other is due to staphyloma posticum, in which the retina and the pigment-layer of choroidal epithelium become atrophied. Both the congenital crescent, as well as the acquired crescent, may involve the region of the yellow spot.—*Lond. Med. Record*, Feb. 24, 1875.

On the Removal of Movable Exudation from the Tympanic Cavity.

In the *Wiener Medizinische Wochenschrift* for October 14, Prof. POLITZER communicates a method of removing exudation from the tympanic cavity. He says that the exudation in the middle ear shows either a purulent character with violent reactionary symptoms, or a serous syrup-like or tenacious slimy character without such symptoms. The exudation exhibiting the former character is much more readily absorbed than the latter, which may lie in the cavity for weeks or months, even when the exudative process which called it into existence has passed away. The mere presence of such a body in the tympanic cavity is sufficient to, and does, cause irritation, hyperemia, increased secretion, and disturbances of the hearing power. These symptoms may pass on to violent inflammation, with formation of pus and all the unpleasant consequences attending its presence in such a narrow chamber surrounded with delicate structures. The means which Professor Politzer describes for the removal of such exudations, is the placing of the patient's head forwards and to the opposite side to that from which the exudation has to be removed, so that, the cavity being upwards, and the mouth of the Eustachian tube directly downwards, the fluid in the cavity will gravitate to a position directly over the opening of the Eustachian tube; and on the opening of the tube by the air-douche from Politzer's bag, the secretion will, if sufficiently fluid, pass at once

into the tube, and so relieve the cavity of its presence. [Mr. W. Laidlaw Purves uses the same position for the removal of fluid by means of Weber-Liel's elastic catheter, the former of which has the advantage of not requiring the passage of the air-douche through the fluid, which is apt to cause its dispersion across the surfaces of the tympanic walls and mastoid cells.]—*London Medical Record*, Feb. 10, 1875.

Extirpation of the Parotid Gland.

Dr. CHAS. B. BRIGHAM reports (*Western Lancet*, Feb. 1875) the following case of this:—

Three years ago L. J., æt. 34, first noticed a small swelling under the right ear; it was not then painful, but as time went on he was troubled with the ear-ache and with severe pains about the right side of the face. Finally the swelling became quite prominent and measured three inches in diameter, pushing up the lobe of the ear. It was round in shape, and was well fixed behind the ascending ramus of the jaw, between it and the mastoid process. It was without fluctuation, and quite hard to the touch; it did not move with the lower jaw; there was no enlargement of the submaxillary gland; the skin covering the tumour was of normal condition.

An operation for the removal of the tumour being decided upon, the patient was etherized on the 15th of November, Drs. Stout, Chamberlain, and others assisting. A curved vertical incision, two inches and a half in length with the concavity toward the lobe of the ear, was made through the skin. Either border was then carefully dissected up until the edges of the tumour were reached; the finger and handle of the scalpel were then used. The hemorrhage was free; no large vessels were felt, as the finger worked its way round the tumour. Near its base a small abscess containing grayish pus was evacuated, and the finger being passed into its cavity was enabled to tear away the remaining attachments. When this part of the tumour was removed it was found that the growth was mushroom-shaped, and that the base still remained to be dissected away. Eight ligatures had been placed upon arteries. The operation was continued by the help of the finger and curved scissors: the finger acted as a guide to the pulsations of the great vessels. The entire tumour was thus cleanly removed from the surrounding tissue, and for a few moments not a ligature remained in the wound. The cavity was then sponged out as dry as possible, and its sides were cauterized with pure carbolic acid. A few small vessels were subsequently tied. At the bottom of the wound the pulsations of the carotid could be distinguished; the tendon of the digastric was fully exposed; the sterno-mastoid muscle was uninjured; the facial nerve was divided as it passed into the tumour; the right side of the face was paralyzed as a consequence. It was also afterward noticed that the upper eyelid of the same side could not be wholly closed. The wound measured two inches and a half in depth. It was filled with raw cotton, the Lister gauze being applied over it. The operation had been a long one, occupying nearly two hours, but the patient rallied well, and was taken home in a carriage. The tumour weighed two ounces; it was three inches in length by two and a half in width. Its base was of cartilaginous hardness. On section it gave out abundant juice, which was found by the microscope to consist of small oval cells.

The patient made a good recovery, and on Jan. 1st, it was noted that "the cheek was in normal condition; the paralysis is becoming less marked; a small dry scab over the line of incision is the only proof of recent work. The upper eyelid on the right side is still partly paralyzed; there is little if any hearing in the right ear; there is no hardness whatever around the cicatrix. The patient is in good general condition."

On the Prevention of the Passage of Blood into the Larynx, in Operations on the Jaws, etc.

Dr. BUROW, of Königsberg (*Berliner Klinische Wochenschrift*, Feb. 1875), publishes two cases of operations on the jaw, in which he employed Rose's

method of placing the head so as to prevent the blood passing into the trachea or pharynx. There are two grave objections to Trendelenberg's method of producing anæsthesia in such cases, which have been frequently observed, viz., the uncertainty and insufficient strength of the tube of the apparatus, and the difficulty of fixing it for the tracheotomy, which is the preparatory step; again the elastic collar often bursts at the moment of expiration, so that it is necessary to delay the proceedings; moreover the best caoutchouc will lose its elasticity; circumstances which would place the country practitioner in difficulties. Tracheotomy is itself an important operation, and is, of course, liable to its own mishaps, which renders its being an adjunct to others still more undesirable.

Rose proceeds as follows: The patient is to be placed with his head in such a position that all danger which may occur from blood being in the mouth during deep anæsthesia may be prevented. He should be anæsthetized lying on his back if possible; then the cushion under the back being removed, so much of his body should be drawn over the edge of the operating table that his head should hang down, with the crown vertical, in which position it should be fixed by a trustworthy assistant kneeling at the side. The operator sits (or stands) in front of the patient, consequently he has to invert all his incisions (*i. e.*, make them from chin to vertex) and the blood thus flows out partly through the mouth, but the greater part of it by the choanæ and nose.

The operations for which Rose has generally employed or has proposed this proceeding, are resection of the upper jaw, uranoplastics, rhinoplastics, laryngotomy, tonsillotomy in children, and hare-lip cases, the latter without an anæsthetic, so as to prevent the swallowing of blood and the resulting disturbance of the digestion, which often cause death. Tonsillotomy is, as a rule, performed without an anæsthetic in children, but it is sometimes necessary, or even desirable. Hueter, in one case, performed tracheotomy, and inserted Trendelenberg's tampon-canula.

[In a case observed by Mr. EDWARD BELLAMY some years ago, the method here described would have been invaluable; a patient was being operated upon for strabismus, and under anæsthesia, when suddenly he became livid, and presented all the symptoms of threatened suffocation; it was discovered that the blood had found its way into the back of the pharynx, through a small aperture immediately below the lower eyelid, resulting from syphilitic necrosis of the superior maxilla, and which had also destroyed the floor of the antrum.]—*London Med. Record*, Feb. 17, 1875.

Stricture of the Male Urethra and its Cure.

Dr. FESSENDEN N. OTIS, of New York, read before The New York State Medical Society (*Medical Record*, Feb. 13, 1875) a paper on this subject. He reiterated the opinion formerly expressed, that "the slightest encroachment upon the urethral canal at any point in its course was cause sufficient to prolong an existing urethral discharge, or even to establish it *de novo* without venereal contact," and also that "the associate of stricture in every case is chronic urethritis."

The opprobrium medicorum, he said, rests upon stricture because, after the patient is pronounced *cured* by his surgeon, he is obliged to continue the systematic use of dilatation by means of a bougie or sound. Dr. Otis expressed his belief in the *true* curability of stricture, and proceeded to explain the principal causes of failure in previous methods of treatment. Among the chief reasons was the fact that heretofore strictures have been dilated, or rapidly distended, or divulsed, or divided up to a purely imaginary and arbitrary standard. The true view to take of a case is, that the calibre that nature furnishes is suited to the patient's own person, and no one can guess at this matter. It is only to be known by an examination of the healthy portions of the canal, and a comparison of its diameters with the contracted part. The meatus urinarius has often been taken as this standard, but no opening of the body is so variable in its relations to the passage to which it gives entrance. As the result of numerous measurements, the doctor had found a pretty certain

relation to exist between the size of the urethra and the circumference of the flaccid penis, and a number of average measurements were given: for example, a penis three inches in circumference in its flaccid state would have a canal that would admit at least a bulbous sound of 30 of the French scale.

Circum. of penis in inches	.	.	.	3 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4	4 $\frac{1}{4}$	to 4 $\frac{1}{2}$
Calibre of urethra (French scale)	.	.	.	32	34	36	38		40

In every case, he said, the measurements were rather over than under these estimates.

An improved urethrometer was shown, by means of which the exact dimensions of the canal at any point can be determined, and a urethrotome for the complete division of strictured portions; a guard upon the blade of the latter served to protect the healthy mucous membrane, while the contracted bands were brought against the edge of the instrument. A probe-pointed bistoury for use in accessible portions of the canal was also shown.

Dr. Otis reported in this paper one hundred cases, comprising two hundred and three operations upon two hundred and sixty strictures, showing the various points of statistical interest. Among other facts the following were mentioned. Respecting the seat of the stricture:—

50	were	in the first	$\frac{1}{4}$	of an inch of the urethra.
63	were	$\frac{1}{4}$	to $1\frac{1}{4}$	of an inch from the meatus.
48	"	$1\frac{1}{4}$	"	$2\frac{1}{4}$ " "
47	"	$2\frac{1}{4}$	"	$3\frac{1}{4}$ " "
26	"	$3\frac{1}{4}$	"	$4\frac{1}{4}$ " "
11	"	$4\frac{1}{4}$	"	$5\frac{1}{4}$ " "
6	"	$5\frac{1}{4}$	"	$6\frac{1}{4}$ " "
6	"	$6\frac{1}{4}$	"	$7\frac{1}{4}$ " "

The following were the measurements of the urethra in one hundred cases:—

Circumference of urethra	}	22, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 40.
in millimetres.		

No. of cases, 1, 3, 1, 18, 26, 20, 3, 15, 1, 2, 6, 1. Not noted 2.

Thirty-four cases of over one hundred strictures, treated by the method of complete division up to the normal calibre of the canal, and which were re-examined at intervals varying from three weeks to three years, showed no tendency to recontraction.

Perfectly relieved for a time, recontraction of stricture re-	.	.	.	.	.	.	.	.	.	8
examined	.	.	.	.	.	.	.	.	.
Not re-examined	.	.	.	.	.	.	.	.	.	40
Perfectly relieved and still under treatment	.	.	.	.	.	.	.	.	.	3
Relieved of most of the symptoms, some symptoms remaining	.	.	.	.	.	.	.	.	.	3
Partial relief	.	.	.	.	.	.	.	.	.	2
Result not known	.	.	.	.	.	.	.	.	.	5

In two hundred and three operations no death had occurred. Five cases of urethral fever had been observed. Only one of them had occurred when the anterior portion of the canal was the part operated on, and this was in the case of a malarial subject.

In conclusion, Dr. Otis insisted upon the necessity of enlarging a contracted canal up to its normal calibre, which calibre should be determined by actual measurement, and that no surgeon should be satisfied with dilating a stricture up to an arbitrary or imaginary standard, or until it was "about right."

Dr. Hutchinson, of Brooklyn, remarked that the method of treating strictures advocated by Dr. Otis, if the true one, is one of the most important advances made in surgery in many years.

On a Case of Ligatured Penis.

This case is reported in the *Medicinisch-Chirurgisches Centralblatt*, No. iii. 1875. In November of last year Herr JULIUS FUCHS was called one afternoon to a healthy and robust boy aged six years and a half, who for some time previously had been in the habit of passing his urine in bed, for which he was

often rebuked, but never actually punished. The following conditions were presented: extreme phimosis, the penis swollen to about three times its natural size, the prepuce much swollen and marked on each side by patches of sloughing caused by the friction of the penis against the inner surfaces of the thighs during walking. About one inch in front of the root of the penis was an annular granulating wound around the whole organ, involving the skin, sub-jacent cellular tissue, and much of the thickness of the corpora cavernosa, extending almost as far as the urethra. The edges of this wound were between six and eight lines apart. The surface of the scrotum was red and eczematous, and the inner surfaces of the thighs studded with pustules. The urine was passed in drops, and with much pain. No accurate information as to the cause of this condition could be obtained from the boy, who, when questioned, made contradictory and improbable statements.

On the following morning, Herr Fuchs, on carefully examining the wound, observed among the granulations a dark line, which proved to be a portion of a thread which the patient had bound tightly round the penis, evidently with the purpose of preventing a nocturnal and involuntary flow of urine. This thread was at once divided and removed. With perfect rest, and the use of camphor lotion and cold applications, the case progressed favourably. The preputial sloughs were thrown off on the third day; the eruptions on the scrotum and the inner surfaces of the thighs soon disappeared, and the urine passed freely without causing pain. At the end of the year the penis, with the exception of the prepuce, which remained hard and swollen, had regained a healthy condition.—*London Med. Record*, Feb. 17, 1875.

Axioms on Lithotrity.

DR. VON IVANCHICH, of Vienna, has been publishing for several years, in the *Wien. Med. Zeitung*, his cases of lithotrity. He now (January 5) interrupts the series at the 223d case, in order to state what he calls his axioms. We should rather say to re-state them, as he declares they are identical with propositions which he laid down in 1842, therefore more than thirty years since, when he had performed some two dozen operations. They are as follows:—

1. Lithotripsy up to the twelfth year is only exceptionally and very rarely indicated.
2. Sex, as sex, is no contraindication to it. It may be added that in girls, even under twelve years, the operation is of more frequent performance than in boys.
3. From the twelfth year until old age, the chances of a favourable issue after lithotrity are continuously on the increase; so that in old age lithotrity is, as a general rule, to be decidedly preferred to lithotomy. It should be regarded as the usual, and lithotomy as the exceptional procedure.
4. While organic and functional integrity of the sexual and urinary organs favours the successful issue of lithotrity, yet even considerable departures from this need not form an absolute contraindication. Phimosis is removed by division or circumcision, and strictures of the urethra by appropriate preliminary treatment. Hypertrophy of the prostate, especially of its middle lobe, often presents a fatal impediment, but yet this frequently is not insurmountable. The spontaneous discharge of the fragments prevented by this, or by paralysis of the bladder, may be compensated for by their artificial extraction. Vesical catarrh, even when this is intense, and whatever the state of the reaction of the urine, considered in itself, interferes little with lithotripsy. On the other hand, increased sensibility of the urinary passages exerts a powerful influence. The employment of anæsthetics, however, has caused increased sensibility, unaccompanied by other complication, to cease to be a contraindication to this operation. Organic disease of the urinary organs, when they can be diagnosed, forbid its performance, as they also render the issue of lithotomy problematical.
5. Lithotrity is favourable for one or more small stones up to the size of a walnut, especially if not very hard, the chemical composition not much influencing the indication, even when this is oxalate of lime. But stones, even as large as an egg, and that when they are very hard, are not always refractory to lithotripsy. No. 20 in the list of cases

relates to one in which two uric acid calculi, weighing together eight Loth (thirty-two drachms), were successfully removed in fifteen sittings. Nevertheless, the large size of the stone, especially when combined with other complications, often contraindicates the operation. Such cases will always raise critical problems, the solution of which will make a demand on the penetration of the surgeon. Stones that are encysted in diverticula of the bladder, or that are impacted in its neck and cannot be readily forced back again, must be removed by incision, as must all calculi that have voluminous non-friable nuclei. 6. Finally, it may be especially declared that invariable determinate indications and contraindications for lithotripsy cannot be laid down on paper; so that in doubtful cases it is only the practical tact of the surgeon that can decide whether any and what operation, or whether mere palliative treatment should be resorted to. It is often the issue of the operation that can alone decide whether the indication has been skilfully seized.—*Med. Times and Gaz.*, Feb. 13, 1875.

A Case of Worms in the Urinary Bladder.

Dr. MELVIN RHORER reports (*Am. Practitioner*, March, 1875) the following case which he was called to see in consultation: The patient, aged sixty-four years, was a farmer, who had for the past twelve months been affected with occasional interruptions to the flow of urine, which for the last three weeks had increased in severity, causing great pain in evacuating the bladder, and which now amounted to almost a total retention. His bladder was very much distended, he having passed no urine for forty-eight hours, except a constant dribbling of highly-coloured urine, with an occasional drop or two of blood.

Dr. R. easily introduced a catheter and evacuated the bladder, finding in the vessel about forty or fifty small red worms about half an inch in length, and having a number of legs arranged in two distinct rows from one extremity to another, and their bodies being encircled with numberless small cartilaginous rings. It was with some difficulty that he pressed a lancet through the body. In about two hours the patient, at his suggestion, forced a passage from his bladder, amounting to several ounces of urine, with about half a dozen more worms. No attempt was made to sound for stone, the diagnosis being too clear as to the cause of the trouble. We ordered spirits of turpentine internally, and the catheter to be employed daily. For the following ten days he passed from four to six worms at every action; since which time he has voided urine without the use of the instrument, and the discharge of worms has ceased. He has no pain on micturition, and is free from his late trouble, except a sense of soreness over the hypogastric region.

[For references to similar cases the reader is referred to Gross *On the Urinary Organs*, and Roberts *On Urinary and Renal Diseases*, 2d ed., Phila., 1872, p. 590.]

On the Surgery of the Arteries.

Mr. C. F. MAUNDER, Surgeon to the London Hospital, in an interesting lecture on this subject, delivered before the Medical Society of London (*Lancet*, Feb. 27, 1875), summed up his remarks on the treatment of surgical hemorrhage in the following conclusions: 1. That no operation is to be performed when bleeding has ceased, unless a repetition of it would directly endanger life. 2. That the bleeding vessel is to be sought at the seat of injury, and to be secured, if divided, at both ends, either by a ligature or by torsion; if only wounded, by a ligature above and below the wound; or after section, by torsion. 3. That the injured vessel is only to be tied on the cardiac side of, and at a distance from, a wound in it, when the attempt to secure it at the wound has either been made and failed, or when such an attempt would be either anatomically injurious or pathologically useless. 4. That it is desirable to ligature the brachial artery, rather than both radial and ulnar, from secondary hemorrhage from the hand. 5. That ligature of the brachial, while it stops

bleeding, also arrests destructive inflammatory changes caused by useless local efforts to check hemorrhage. 6. That blood flowing from the distal side of a wound in an artery, or ligature upon it, will in the lower extremity be often, in the upper extremity occasionally, venous in colour. 7. That in malignant disease, when the growth cannot be removed and it is impossible to check bleeding by milder measures, the feeding artery may be ligatured in its continuity. 8. Where a part is more or less disorganized, and hemorrhage renders repair very doubtful, amputation should be performed to arrest bleeding and remove a hurtful member. 9. Indirect compression will occasionally arrest severe bleeding. 10. That both the axillary and the femoral arteries may be wounded, and a pulse be felt at the extremity of the limb. 11. That a wound in an artery may be recognized by the warm blood impinging on the inserted finger. 12. That direct compression upon the bleeding point will often succeed *after* the main artery has been tied, though it failed *before*; and this fact is a justification for tying a main vessel.

Aneurism of the External Carotid cured by Pressure.

A case is reported, in a recent number of the *Correio Medico*, of aneurism in the external carotid cured by digital compression. Only a very few cases of successful compression are reported as applied to this artery, and none hitherto in Lisbon, although success has attended the process as applied to a great many other arteries in Portugal, where, from the hilly character of the country, and perchance from other causes, aneurism is exceedingly frequent. Among these, one may conclude that the habit of carrying loads on the head and shoulders is highly operative, the wheelbarrow not being in general use. In the case above mentioned digital compression had just before been employed in Brazil for the space of thirty-nine days. On November 21, 1874, it began to be once more applied in the Sanatorium of Lisbon, and terminated successfully at the expiration of forty days. Towards the end of the period compression was kept up for twelve hours daily. The pulsation was found to have ceased on awakening from sleep on the morning of December 30, after a night's rest which had been preceded by a continuous application of the pressure for the space of forty hours. The treatment in Lisbon lasted thirty-nine or forty days, during which 283 hours were spent in compression. This constitutes, if we mistake not, the fifth case of aneurism of the carotid cured by digital compression.—*Med. Times and Gaz.*, Feb. 27, 1875.

On a New Operation for Varicose Veins.

Mr. JOHN MARSHALL recently gave a lecture at University College Hospital (*Lancet and British Medical Journal*, January 23) on the treatment of varicose veins; in the course of which he remarked that the treatment by subcutaneous ligature, now generally employed, was not altogether free from risk, and that its results were not always satisfactory. He then proceeded to describe an operation which, he believes, will prove a more speedy, effectual, and safer cure than that now in use. It consists in excising a considerable length of the vein where it is most enlarged, and is performed as follows: The course of the vein having been marked with ink, a pin is passed under it at each end of the part to be removed; the limb is now emptied of blood by Esmarch's bandage; the skin is divided along the marked line, and the vein, previously secured by figure-of-8 ligatures passed over the pins, cut across at each end and dissected out; the wound is then dressed after Lister's method. Mr. Marshall afterwards showed what had been a very bad case; ten inches of vein had been removed, and a rapid and complete cure effected.—*London Med. Record*, Feb. 17, 1875.

On Resection of the Inferior Dental Nerve.

Dr. STETTER (*Berliner Klinische Wochenschrift*, No. ii. 1875) reports a case in which Prof. Schoenborn, of Königsberg, removed a considerable portion of the inferior dental nerve by first dividing it in the mouth of the patient, and then by removing part of the anterior wall of the dental canal. The patient, who was a woman aged sixty-four, had lost most of her teeth before the age of thirty, when, in consequence of fright, she suffered during a period of three months from occasional attacks of severe cramp and painful convulsive movements of the limbs. When forty-eight years of age, she was again much frightened by the attack of a dog, and from that time suffered from frequently repeated attacks of spasm and pain on the left side of the face, the intervals between these attacks having, up to the time of her admission, become more and more frequent. When first seen by Professor Schoenborn, the patient, who was much emaciated, complained of very severe radiating pains on the left side of the face, especially about the lower jaw. The intervals between the attacks varied in duration from five minutes to a very few seconds, and during each attack the affected side of the face was fixed by muscular spasm. The woman was able to ease the pain by simultaneous pressure with her fingers on the inner surface of the lower jaw in the region of the aperture of the dental canal, and on the outer surface of the bone. After the patient had been treated for two weeks by injections of morphia without any good result, Professor Schoenborn decided to have recourse to neurectomy. As the patient referred the most intense pain to the region of the inferior dental canal, it was held that the cause of the affection might probably be found in the portion of nerve which was contained therein, and that a cure might be effected, or at least considerable relief afforded, by removing that portion. With this object in view, Professor Schoenborn first divided the inferior dental nerve in the mouth near the aperture of the canal according to Paravicini's method, then cut down upon the front of the lower jaw and removed with the chisel a portion of the anterior wall of the canal, and finally pulled out and excised a portion, about six centimetres in length, of the inferior dental nerve. In the first stage of the operation an incision was carried along the inner surface of the lower jaw over the course of the inferior dental canal from the aperture downwards and inwards, and afterwards for a short distance upwards towards the neck of the bone. The mucous membrane and periosteum were cut through and elevated along the whole of this wound, and the loose cellular tissue between the internal pterygoid muscle and the ramus of the jaw partly pressed on one side by the fingers and partly removed. After some slight bleeding had been suppressed, the lingual nerve could be seen, and behind it, on the outer surface of the internal pterygoid muscle, the inferior dental nerve and artery imbedded in cellular tissue. The lingual nerve having been drawn aside by a small blunt hook, the inferior dental nerve was carefully dissected away from the artery and enclosed near the aperture by a ligature, the two ends of which were brought out of the mouth. The anterior wall of the canal lining these, in the second stage of the operation, was chiselled away over an extent of one centimetre and a half; the nerve was divided as far as possible above the aperture of the inferior dental canal, and then dragged out through the external wound. The dissection of the parts within the mouth and the division of the nerve were much facilitated in this case by the absence of teeth and the absorption of the alveolar process of the lower jaw, the conditions being similar to those met with in infants and very old people, and generally in edentulous subjects. On the first and second days after the operation there was no relief; on the third and fourth days the neuralgic pains were not quite so severe, and on the fifth day they ceased altogether. When seen six months after the operation, the patient was quite free from pain, and stated that she had not suffered from any relapse.

Dr. Stetter holds that Paravicini's method of dividing the inferior dental nerve within the mouth is to be preferred to the subcutaneous method, since in practising the latter it is difficult to avoid wounding the lingual nerve or the inferior dental artery. In conclusion, he argues that neurectomy in cases of

neuralgia, though very uncertain in its results, may be considered a justifiable operation when applied as a last resource for the relief of very severe and intractable forms of this affection.—*London Med. Record*, Jan. 3, 1875.

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Resection of a portion of the Continuity of the Ulna and Radius for the Correction of Deformity from Ununited Colles's Fracture.

Dr. WILLIAM A. BYRD, of Quincy, Illinois, describes (*Richmond and Louisville Med. Journal*, Oct. 1874) the following interesting case which resembles in many respects one lately reported by Mr. Annandale (see *Monthly Abstract of Medical Science* for March, 1875, page 127).

In the summer of 1873, Dr. Byrd was consulted by a clerk, aged 41, as regards the advisability of an attempt to correct a deformity of the left arm. On examination of the limb there was found an ununited Colles's fracture of the left radius. The ulna passed up alongside of the hand until the lower end of it was somewhat beyond the junction of the fifth metacarpal bone and the carpus, and curved at a point opposite the fracture in the radius, the concavity looking toward the radius. The hand was smaller than its fellow, with palm cupped and the fingers partially flexed, with an inability to close them completely or with any degree of force. When he would pronate or supinate the hand, it would describe an arc of the circumference of a cone, the apex of which would be the lower end of the ulna—a very uncouth motion, indeed.

With the belief that he could remedy the defect to a great extent, Dr. Byrd determined to operate on Nov. 1. He made an incision through the skin over the inner side of the ulna, commencing an inch above the styloid process, and continued up the arm for about three inches. The superficial fascia lying at the bottom of the wound, was then very carefully divided over a grooved director. The muscles were pressed apart, so as to expose the bones. The periosteum was divided for an inch and a half, and separated from the whole circumference of the bone; a chain-saw was then passed around the bone at the lower angle of the wound, and the bone quickly divided. The lower end of the upper piece of the ulna was then raised on a spatula, and an inch of it sawed off. An incision two inches long was then made over the point of fracture of the radius, on the outer side of the arm, down to the bone, the ligamentous union between the fragments was broken up with some difficulty. An effort was then made to bring the ends of the fragments through the wound at the radial side, but failing in this, they were forced out through the wound on the ulna side, and their ends trimmed with a pair of bone nippers. A hole one-sixteenth of an inch in diameter was then drilled from the outer surface of the upper and lower portions of the ulna, commencing one-fourth of an inch from the point of section, and passing diagonally towards the free ends into the medullary cavity. A well annealed iron was then passed through the holes and the ends of the wire twisted together, so as to bring the ends of the bones nicely into apposition; the wire was then cut off, leaving a short piece of the twist, which was bent down parallel with the shaft of the bone to prevent irritation of the soft parts.

The ends of the radius being in apposition were left without further interference. The wounds were closed with interrupted sutures and a straight splint applied to the arm anteriorly.

Nov. 20. Radial wound healed; ulna wound healed throughout the greater portion of its extent. An abscess had formed on the palmar aspect of the arm at a point midway between the incisions. When opened, a considerable amount of pus was discharged. This continued to discharge until Feb. 7, 1874, when probing it Dr. Byrd discovered a foreign substance at the bottom of the sinus. Enlarging the opening, he was enabled to extract the wire and two bits of bone that had been included in it in tying the two pieces of ulna together. At this time the ulna had slipped up so as to occupy an almost normal position with the carpus, and the radius had united at the point of fracture; the ulna was still ununited. There was also a small opening at the ulna wound, through which water would pass when injected into the opening on the front of the arm. After this, these openings rapidly healed, and the ulna firmly united. He had

some degree of pronation and supination, with good use of the wrist. The fingers became more flexible and the hand less cupped and deformed.

On the Diagnostic Value of the Ilio-Femoral Triangle in Cases of Injury to the Hip, more particularly of Impacted Fracture.

Mr. THOMAS BRYANT read an important paper on this subject before the Royal Medical and Chirurgical Society (*Brit. Med. Journ.*, Feb. 13, 1875). The triangle which the author described as the ilio-femoral was formed between the ilium and the great trochanter of the femur. One side of it, AB, was drawn from the anterior superior spinous process of the ilium, A, to the top of the trochanter major, B; the second, AC, was drawn from the anterior superior spinous process of the ilium directly downwards to the horizontal plane of the recumbent body; and the third, CB, the base of the triangle, was drawn at right angles to AC, and fell upon the line AB when it touched the great trochanter. To this line the author's observations referred. He said that the line AB corresponded in the normal condition of the hip-joint to Nélaton's test line for dislocation of the head of the thigh-bone backwards, and he regarded the line of the triangle described (CB) to be the test-line for fractures or shortening of the neck of the thigh-bone. He stated that after repeated proofs he could confidently assert that, whilst in a healthy subject the ilio-femoral triangles of the two sides were exactly similar in all cases of injury to the hips, in which shortening of the neck of the thigh-bone existed, the amount of shortening could readily and accurately be made out on comparing the bases of the triangles of the two sides. In impacted fracture, where on the sound side the base of the triangle would, in the adult, measure its average normal length of two and a half inches, on the affected or injured side it would measure from half an inch to more than one inch less. These measurements were taken with the patient in the horizontal position, the pelvis straight, and the two femora parallel. The author illustrated his paper by quoting half a dozen cases of impacted fracture, in which by the test-line the shortening in the neck of the thigh-bone was readily made out; and concluded by pointing out the value of such simple and certain means of making out whether any shortening of the neck of the thigh-bone exists after an injury, preventing any undue manipulation of the hip-joint in cases of impacted fracture or other obscure injuries to the joint. He then passed on to point out how fallacies in the test might be met with; but, as they were quite exceptional in practice, he thought that they could in no way tend to diminish the value of the test-line as a means of diagnosis in hip-joint injuries. The paper was illustrated with drawings and a diagram.

Mr. G. Pollock asked whether Mr. Bryant did not find equally good results from the old plan of measuring from the anterior superior spinous process to the patella. The plan proposed was, however, so mathematically correct that it might be a useful aid in diagnosis. Mr. Thomas Smith said that it had to be proved that the plan of measurement described by Mr. Bryant could be applied to all bodies. It would be difficult, in a corpulent elderly person, to estimate the position of the trochanter. He had recently been engaged in making measurements on the dead subject; and had found that accuracy could be obtained only by driving a bradawl into the bone. He would prefer the measurement from the anterior superior spine of the ilium (which is readily recognizable) to the external malleolus. The line proposed to be dropped from the spine of the ilium might not be vertical; and it might be difficult to find the position of the trochanter. Mr. Barwell spoke of the difficulty of obtaining a perpendicular line on a rounded surface. It was not only necessary to observe that the line AC was perpendicular, but there was a difficulty in drawing BC at a right angle to it. The measurement from the spine of the ilium to the malleolus was a great guide to diagnosis. The amount of shortening would be better determined by stretching a tape from the anterior superior spine to the great trochanter than by Mr. Bryant's lines. This plan might be applied in cases of fractures and dislocation. Not unfrequently fractures occurred in thigh-bones which were not accurately alike on both sides, as in old persons who had had

rickets. All difficulties here, however, would be removed by measuring through Nélaton's line, rather than from the anterior superior spinous process of the malleolus. Mr. John Wood recognized the importance of the measurement of the base of the triangle as recommended by Mr. Bryant; and he thought a measurement of the kind better than Nélaton's line. He measured, however, from the crest of the ilium to the trochanter; at the same time, in stout females with loose flabby tissue, he combined with it measurement according to the old plan. Mr. Maunder thought that the diagnosis of impacted fracture of the neck of the thigh-bone was well established and very easy. Its signs were negative rather than positive. The limb remained still capable of some motion—which was not the case in dislocation and fracture; but a great point was that, in consequence of the bone being driven into the trochanter, the mass of bone could be felt with the fingers. Mr. W. Adams thought the plan of measurement described by Mr. Bryant likely to be useful in the diagnosis of chronic disease and congenital dislocation of the hip-joint in children. He had used a somewhat similar method, by making dotted lines over the parts. Mr. Callender said that the late Mr. Stanley took great interest in measurements, especially of the thigh-bone. He used to measure the different parts by using a flat surface—such as an ordinary prescription board—as the fixed point, in such a way as to ascertain not only the amount of shortening but of lateral depression. Mr. Bryant said that he would not have brought the plan before the Society unless he had been convinced of its superiority, both in thin and in fat subjects. He did not use a plumb-line, but measured with tape. The plan was especially useful in determining the shortening of bone without subjecting the patient to unnecessary manipulation.

Subperiosteal Excision of the Os Calcis.

Mr. TIMOTHY HOLMES brought before the Clinical Society of London (*British Med. Journ.*, Jan. 30, 1875) a case of this, which had been performed as nearly as possible after the method prescribed by M. Ollier. The patient was a boy, aged 14, and the operation was performed on January 31st, 1873, by a curved incision carried down the external inferior border of the calcaneum and along the external margin of the os calcis. The only tendon which was divided was the tendo Achillis, which was turned away from the bone along with the periosteum. The bone was removed, perfectly free from soft structures, except on the inner side, where some of the periosteum was necessarily taken away with the bone. The case was a very favourable one for the operation; but a good deal of difficulty was experienced in performing the excision, and the operation was followed by great inflammatory reaction. Ultimately, though the boy recovered well, the ankle-joint and the transverse tarsal joint, as far as could be ascertained, were found to be ankylosed; and the use of the foot was not so good as in other cases which had been under the care of the author, in which no care had been taken to preserve the periosteum. The patient had been exhibited to the Society at the last meeting. Mr. Holmes remarked that in a former case, in which he had followed M. Ollier's rules in the subperiosteal excision of the elbow, he had found the result inferior to that obtained by the ordinary method in the most successful cases.

Mr. BARWELL recalled to mind the fact that a paper had been read before the Society last year by Mr. Croft on a very successful case of subperiosteal excision of the hip-joint, done according to the plan of Dr. Sayre of New York. Dr. Sayre, having cut down to the bone, separated the periosteum with a kind of oyster-knife, and then excised the head of the bone. Mr. Barwell had had a case in hospital in which Dr. Sayre, who was present, had by request finished the operation. In another case of excision of the knee, done according to the same method, there was ankylosis before the external wounds were healed, which was, perhaps, attributable to the subperiosteal method. In taking out sequestra of bone, it was best to cut straight down to the bone through all the tissues, and peel off the periosteum with the soft parts attached to it; not to denude the periosteum from both sides, which was likely to produce failure from death of the membrane. Mr. Holmes would probably have had greater

success in his case without the subperiosteal method; for, in excision of the os calcis according to the usual method, the tendo Achillis and other muscles subsequently regained their action. When bone was removed from a large cavity, one could not expect that bone should be reformed there at once. Pus was first poured out, and filled the cavity. He (the speaker) considered that the removal of large pieces of bone by the subperiosteal method was sure to be unsuccessful: the patient ran in danger from the collection of pus in the large cavity; and, although it might be plugged with lint, yet, as had been shown, the daily disturbance of the surface of granulations in a wound, as by the removal of the lint, was rife with dangers to the patient.—Mr. HAWARD had had under his care in 1871 a girl whose elbow he had excised subperiosteally. The disease ran a long way up the humerus, so that a large piece of the bone had to be removed. It was a tedious case for operation, but he had managed to leave a large portion of the periosteum upon the removal of the bone from beneath it. There was no great subsequent inflammation, considering the injury done in the operation. At present, the child could use the arm well, and had good motion of the elbow. The period of recovery had, however, been a protracted one, much longer than would have been required had the operation been done by the ordinary method. In some of these cases, excess of bone had been thrown out, and loss of mobility had resulted therefrom. The bloodless method was of great advantage to the operator, as he could then hit the joint at once.—Mr. CALLENDER would have two objections to the subperiosteal method for operation in such cases. Firstly, the disease was due to caries, and therefore the periosteum had undergone grave changes. Secondly, there was a very small piece of periosteum which could be removed with the articular end of the bone, except when the shaft was diseased. In removal of sequestra, he always lifted up together the skin, tendons, periosteum, etc., from the bone. As regards the bloodless method, which was a great advance in surgery, it had been said that it had not been adopted before Es-march introduced his plan; but such was not the case. Mr. Hilton, at Guy's, had been accustomed to use a similar procedure; he used to bandage and elevate the limbs of bloodless patients for an hour or so before their amputation.—Mr. HOLMES would think the great objection to Dr. Sayre's method at the hip-joint was the fact that the operation had to be begun low down—below the insertion of the gluteus minimus. At the elbow, there was a good deal of periosteum on the olecranon; and the bone formed by that periosteum interfered considerably with the proper straightening of the elbow after the operation. In Ollier's operation, the incision was carried down to the bone at once; and the periosteum was reflected from the bone, together with all the other tissues covering it.

Midwifery and Gynæcology.

On Compression of the Abdominal Aorta in Post-Partum Hemorrhage.

The following remarks by Dr. WOLFGANG SCHMIDT (*Ärztliches Intelligenzblatt*, January 12, 1875) were occasioned by a case of *post-partum* flooding that happened in the author's practice, where a woman, aged thirty-two, pregnant for the third time, was attacked with flooding coupled with retention of the placenta.

She bled until she became faint and perfectly blanched. The umbilical cord had been torn through by the midwife. An attempt to remove the placenta by Credé's method was unsuccessful, and brought on an attack of faintness. The abdominal walls being very flaccid, the pulsations of the aorta were easily recognizable. It struck Dr. Schmidt to apply compression to that vessel. The effect was that the pulsations of the aorta, which were previously small and

frequent, became in a few minutes gradually fuller and slower; the faintness disappeared, and consciousness returned with singing noises in the ears; after a time even this symptom ceased. As soon as the compression was removed, all the former symptoms returned. Compression was again applied with the same result, the patient complaining only of tingling and numbness of the lower extremities, showing how effectual had been the pressure. The patient made a good recovery. Some authors placed compression and transfusion alongside of each other, and, as Herr Schmidt thinks, properly so; as, although general increase in the quantity of the blood is not attained, yet in the vital organs such is obtained, in the foremost rank of which stands the brain. Besides, transfusion is not capable of easy or rapid application, and assistance, both instrumental and manual, is requisite; a not unimportant factor in country practice.—*London Med. Record*, Feb. 24, 1875.

— *The Treatment of Puerperal Fever.*

In addition to the important question of duty connected with cases of puerperal fever which we discussed in our last issue, there is another question—that of the treatment of the puerperal patient herself, which, it may be allowed, is one of the most unsatisfactory questions in medicine. At the same time it is to be said that it does not increase in unsatisfactoriness, and that, with a truer insight into the nature of the varied and complicated conditions represented in the name puerperal fever, we seem to see more clearly the nature of our duties, and the chance of doing good by our treatment, and are now and again encouraged by the recovery of very bad cases.

We are not going to be drawn into any fine definitions of puerperal fever. The state we have in view is that of a woman recently confined, who, after a shivering, or something that represents a shivering, has a quick pulse, and a temperature varying from 101° to 105° , with more or less pain in the uterine region—perhaps very little pain, only to be ascertained on deep pressure—with suppression of milk, more or less distension of the abdomen, the lochial discharge deficient or absent, and offensive, and with more or less tendency to wandering. This is a picture that will be recognized by every practitioner of experience, and the practical question which we propound to our readers, rather by way of consultation with them than in any dogmatic spirit, is this—what is the best course for a practitioner to pursue who has a lying-in patient in the above state? It will be gathered that we exclude from our supposed case the element of a sharp local sthenic inflammation either in the breast or in the pelvis. Where indications of such circumscribed lesion can be found they tend to relieve the mind of the practitioner, and induce him to believe that the constitutional disturbance he sees will be reduced by attention to the inflamed part and by preserving the patient's strength in quiet ways. Excluding cases of obvious local sthenic inflammation, probably the truest and safest view that we can take of such symptoms as we have given above is to regard them as indications of *septicæmia*, arising from introduction into the blood of materials more or less putrid, or capable of giving rise to changes in the direction of putrescence and to low forms of inflammation. Such materials may arise in the patient's own body, or may be introduced from without, as in the case of poisons of erysipelas, or of scarlatina, or of puerperal fever, or of the products of the decomposition of the dead body conveyed by those who dissect. The tendency of late to associate puerperal fever with either scarlatina or erysipelas shows how strongly the septicæmic view of this disease is taking possession of the profession. If this be the correct view, it follows that in the treatment we must aim chiefly at preserving or restoring the purity of the blood—by fresh air, by copious disinfecting washings of the vagina or even of the uterus—as with weak solution of Condy's fluid; at maintaining strength by nourishing and yet convenient food and stimulants; at relieving local pain by occasional opiates, and by warm poultices, which are invaluable. In nearly all cases it will be found that there is some local inflammation of a low asthenic order, like that of erysipelas, to be met, not by old-fashioned antiphlogistics,

but, like erysipelas itself, with tincture of iron associated with quinia. The former may be given in a mixture with spirits of chloroform, while the latter is given in a pill, in doses of two grains every four or six hours. The opium may be very conveniently given in the same pill with the quinia, say in quarter or half-grain doses, or even more. It seems not only to relieve pain, but to act curatively on local inflammation. Purgatives often give rise to much irritation and disturbance, and in grave cases of blood-poisoning we are only too apt to get diarrhœa. In general, it is better to invite the bowels, if sluggish, to act by an enema than to irritate them by a purgative. In no cases is the thermometer more valuable as a guide to the condition of the patient, or to the action of remedies, than in the various cases of puerperal fever.

We have no intention to undervalue other remedies than those we have mentioned, such as turpentine, small doses of tincture of aconite, etc.—*Lancet*, Jan. 30, 1875.

On Enucleation of Fibroids.

At the Congress of German Naturalists and Medical Men, held in 1874 at Breslau, in the gynæcological section (*Berliner Klinische Wochenschrift*, Nov. 23, 1874), Dr. A. MARTIN read a paper on enucleation of intraparietal fibroids. He had enucleated five intraparietal myomata of the body of the uterus in the Gynæcological Klinik at Berlin. He entered very fully into the minute details of his own personal experience. Having described the anatomical relations of these five apparently particularly interesting tumours, he endeavoured to determine the precise period when the operation should be performed. He found it laid down that the tumours should be allowed to grow until they became submucous, and until the lower segment of the uterus was prepared by increasing contractile activity for their expulsion. Dr. Martin agreed in this view. It was under these conditions that he operated, by which means, he always considered, difficulties were diminished and the dangers lessened. All the usual enucleating instruments were discarded, and the shelling out the tumours performed with only a few incisions. To overcome some of the difficulties he invented a kind of forceps, with the upper portion of the blades armed with guarded and applicable hooks. Authorities he found varied much as to whether the operation should be completed in one sitting or in two. The relator thought the operation *à deux temps* only justifiable when the tumour was very rich in fibres and poor in bloodvessels. His after-treatment was directed purely to symptoms. Of the five patients four recovered in a short space of time; one died on the third day after an operation *à deux temps*. Out of the fifty-one recently published cases there was only a mortality of 14 per cent., whereas out of those collected by Dr. West, and performed a few years ago, the mortality stood at 50 per cent.

In the discussion that ensued, the proposal to operate on intraparietal fibroids met with much opposition. Dr. FRANKEL, of Breslau, cautioned against operating for veritable intraparietal fibroids, as a method fraught with too much danger. Enucleation was only applicable in the submucous variety, to which he believed Dr. Martin's cases were referable.

Dr. NEUGEBAUER, of Warsaw, and Dr. SPIEGELBERG, coincided in this opinion. The latter maintained that it was only those fibroids that were met with during labour, and in which the internal os was dilated, that were amenable to intra-uterine operation; whereas true intramucosal fibroids, *i. e.*, those surrounded on all sides by a nearly equal layer of uterine tissue, could not be extirpated *per vaginam*, or only when they were of small size, and situated low down.—*Lond. Med. Record*, Feb. 17, 1875.

On the Treatment of Uterine Fibroma and Myoma by Hypodermic Injection of Ergotine.

Prof. HILDEBRANDT, in the *Beiträge zur Geburtshilfe und Gynækologie*, Band iii. Heft 2, 1874, remarks that recent literature has been lately very full of repeated trials of hypodermic injections of ergotine for the treatment of

uterine tumours. As a rule, the result has not been favourable. Failure seems to have arisen chiefly from three causes: the extreme pain undured by the patient; phlegmonous inflammations and abscesses; and, in one case, poisoning. The strongest argument that has been used against it is, that those who have the hardihood to go through all the suffering have derived no benefit whatever. As to Dr. Hildebrandt himself, his experience has differed in no wise from that previously reported (*Berliner Klinische Wochenschrift*, No. 25, 1872), and he is perfectly satisfied with the results, which go to substantiate his previous assertions.

First objection: *Pain*.—The solution of ergotine now employed has 13 parts of water to 3 of the extract of ergot, and 2 of glycerine. It causes less pain than when the quantities of water and glycerine were equal. The glycerine is added to prevent the formation of fungi. With this preparation, the pain is not greater than that usually experienced with the injection of quinia. The first applications are the most painful; the region of Ponpart's ligament is the most sensitive spot, and that of the umbilicus the least so. There are two distinct varieties of pain; the first an immediate one, the effect of irritation to the cellular tissue, lasting a couple of hours; the second coming on later, and continuing for about an equal time, arising from contraction of the uterus. The latter kind of pain is essential to the success of the operation; the more severe it is, the more likely the desired effect will be obtained. Wernich's solution produces this pain also. The more deeply the needle is driven, the less intense is the first variety of pain.

Second objection: *Phlegmonous inflammation and abscesses*.—Dr. Hildebrandt has never seen these accidents follow his own injections, and only twice where his assistants had operated; and this out of over 1000 hypodermic injections. These complications are believed to depend upon not inserting the needle deep enough; he passes the canula at least two-thirds of its depth, and does not mind injecting the fluid into the muscular tissues. The skin and its mediate superficial layer of cellular tissue should be thoroughly cleared. The experience of Langenbeck, Awater, and Lohlein coincides with his own, both as to this method of diminishing the pain, and obviating the occurrence of abscesses.

Kleinwachter's case of *poisoning* arose from the solution being too strong, three and a half parts nearly of ergotine to two of water and two of glycerine. The symptoms were analogous to those of morphia poisoning, "deep stupor, reduction of temperature, pulse 140."

Against the negative results of other investigators he places the positive benefits obtained, as observed by Hermanides, Eggel, Bengelsdorf, Ul. Mayer, Keating, Henning, and Wernich; the latter having seen the treatment check hemorrhage in the majority of cases even after five or six injections, where it had been used solely for that object. Scanzoni writes him privately under date of March 30, 1874, that he is, as a whole, completely satisfied with his results, although he cannot flatter himself with ever having seen the entire disappearance of the tumour. He has used it in seventeen cases of large and small fibromata, the injections being persevered in for months. In one instance, a tumour midway between the navel and pubes diminished to the size of an orange after forty injections. In a case of flooding from fibroma, it was arrested after the seventh injection. Dr. Burow writes privately to say that in one case a fibroid of the size of a child's head was reduced in three months to the size of an orange, with complete cessation of menorrhagia.

Prof. Hildebrandt believes it is essential, in order to obtain a successful result, that the tumour should be compressed by protracted contractions of the uterine walls. As, in neoplasms of other parts of the body, absorption can be produced by prolonged instrumental compression, so also may fibromyomata be reduced in size by similar compression by a tetanically contracted uterus. Whether the action of the ergot in causing contraction of the uterus and thereby compressing the tumour is the only way in which it operates, remains doubtful. In some cases, he is under the undoubted impression that the tumours soften before they lessen. If this softening were always present, it might be explained by supposing that the tumours, through an excess of blood

in the veins, and a diminution in the arteries, as seen by direct experiment of Wernich, were gradually disintegrated. He protests against having ever maintained or believed that every fibroma of the uterus was capable of dispersion by ergotine injections.

The consistence of the tumour is all-important. An old impoverished fibroma, consisting chiefly of thickened connective tissue, is as unlikely to be absorbed as a calcareous mass. If the ergot increase the hemorrhage and discharge, it is probable that it does so by the uterine contractions causing a narrowing of the vessels. This is generally found to be the case in aged persons, the reverse, however, with the young; with the latter the tumours are vascular and loose, with muscular fibres. The most favourable cases are those which resemble in form and consistence a tense elastic cyst, which was the case with his first published case.

Energetic uterine contractions are essential to success; hence the uterus must be healthy and capable of contraction. Thin muscular walls are less fitted, as seen in some subperitoneal and submucous fibromata of large size, where the uterine walls are much expanded. In the intermediate-sized tumours, there is more risk of indurations and exudations into the perenchyma than there is from thinning. The cases the least suited are those where there have been some chronic parenchymatous metritis or perimetritis and parametritis. These conditions should be first cured before attempting injection of ergot. Lastly, the most favourable position is immediately under the mucous membrane—the muscular layer that covers it being perfect. In the middle of the uterine walls, it is less favourable, but least of all when subperitoneal. In these latter kinds of cases he has at times observed the tumour pushed out, and thereby rendered more prominent, by injections.

In order to promote rapid absorption of fibromyomata the following conditions are essential:—

1. Their seat should be submucous.
2. Their consistence should be of a tense, elastic, muscular character.
3. The uterine walls should be healthy, contractile, not thinned by stretching, not unyielding through exudations, and the uterus free from perimetritis and parametritis.

He adds that whosoever thinks he will cure the symptoms and remove the tumours by a few injections, greatly errs. At least from twenty to fifty or more are absolutely necessary to obtain favourable results.—*London Medical Record*, Jan. 27, 1875.

— *Successful Removal of the Uterus.*

Dr. E. M. BARTLETT reports (*St. Louis Med. and Surg. Journ.*, March, 1875) the following case, which is believed to be the first operation of its kind performed in Missouri, if not west of the Alleghanies.

“Mrs. J. J. M., aged eighteen years, was delivered, after a natural labor, of her first child by a midwife, who, in her haste to remove the placenta, inverted the uterus, and immediately left to attend another case of labour.

“Mrs. M. passed four weeks in this condition without any marked untoward symptoms. At the end of a month, however, when she attempted to sit up, uterine hemorrhage began. A physician was called who, on examination, ascertained the abnormal condition of the uterus, and sent for a second physician. Together they made several fruitless attempts to replace the uterus. Patient then lay four years under the treatment of different physicians, one of whom treated her for prolapsus uteri by introducing a pessary.

“Each catamenial period was attended with profuse and alarming hemorrhage. Whenever the patient arose to her feet uterine hemorrhage came on. She was therefore confined constantly to her bed for four years, until she had become completely bed-ridden.

“Dropsical effusion in her lower limbs had resulted from profuse and repeated hemorrhage. Occasionally at her menstrual periods her physician was unable to detect the pulsation of an artery, for twenty-four hours.

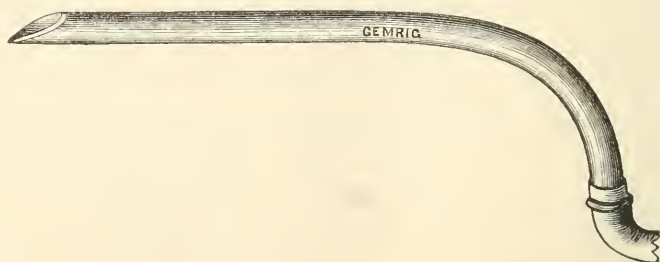
"I was called to her in 1842, four years after the accident happened. She was then twenty-two years of age. On examination I discovered in the vagina a large tumour of a pyriform shape, larger at its base than at its superior extremity, but not attached by a very narrow pedicle, and surrounded at its apex by the cervix uteri, between which and the tumour I could readily pass my finger. I found that I had a case of almost complete inversion of the uterus. I could find no evidence of scirrhus or carcinoma about the uterus. I decided to operate by removing the tumour as soon as cold weather returned. I had seen the report of the ligation and removal of the uterus by Newnham, of England, but no report of the operation having been performed in this country. I thought, however, that if European surgeons had the boldness to perform the operation, American surgeons ought to be bold enough to try it. I had no means of knowing what effect the cessation of her menses would have upon her general health. This was before the invention and introduction of the écraseur, else I should have used that instrument.

"I commenced the operation Dec. 2, 1842, using a double canula, so constructed that the ligature could be tightened by turning a screw. I applied the ligature, made of very strong silk, as high as possible, taking care to avoid including any part of the cervix uteri by carrying the silk within the orifice. I strangulated the tumour effectually.

"When I applied the ligature it produced nausea and fainting; I then loosened the screw until patient became perfectly easy. I gave her a dose of morphia immediately after applying the ligature—this was the only anodyne administered during the progress of the operation. I gave the screw one turn daily until the tumour was removed, which occurred twenty-four days after the ligature was applied. After the operation the os uteri resumed its normal position. The ovaria were not removed. She still lives in Pike County, Mo., and enjoys good health. She has not suffered from the suppression of her menses. She has a more masculine appearance than before. I afterward presented the specimen to the St. Louis Medical College Museum, and am informed that Prof. M. M. Pallen exhibited it annually to his classes."

A New Canula for Tapping Ovarian Cysts.

Dr. H. LENOX HODGE at a late meeting exhibited to the Obstetrical Society of Philadelphia (*American Journal of Obstetrics*, November, 1874) a *canula for tapping ovarian cysts*, and remarked that the two great improvements that have of late years been made in the operation of tapping consist in using an instrument which shall act as a syphon, and one which will allow the fluid to flow the moment that the puncture is made. The syphon-action allows the patient to be tapped while lying on her back, renders unnecessary the use of compressing bandages, prevents the entrance of air into the cavity of the cyst,



and allows the fluid to be withdrawn without wetting the patient. An instrument which allows the fluid to flow the moment that the cyst is punctured removes the pressure instantly, and thus prevents the cyst from splitting at the point of puncture. Mr. Spencer Wells's canula accomplishes these ends, but is complicated and expensive. The India-rubber tube attached to it must

bend on itself more or less abruptly, and thus the calibre of its tube is interfered with, and the current of the fluid interrupted. The hooks to clasp the cyst are unnecessary, and the cannula is too short in cases of multilocular cysts.

The annexed wood-cut represents a most simple and yet extremely efficient cannula.

It is made of steel, nickel-plated, and should be 10 inches long, and for thick fluids should be a half-inch in diameter. One extremity slopes obliquely to a point, which should be sharp enough, with moderate pressure, to penetrate the cyst readily after the skin has been divided by a knife, and yet not so sharp as to wound any structure that might come in contact with it without pressure. The other extremity is curved, and has an elevated rim for attachment of the India-rubber tube. The India-rubber tube thus will hang without bending, and the fluid will pass freely without interruption. This curved extremity also serves as a good handle.

Dr. Hodge stated that he used this cannula in the simple tapping of ovarian cysts and in operations of ovariectomy, and had found that its efficiency fully equals its simplicity. The puncture that it makes is semilunar in form, and readily heals. The instrument maker should be careful to sharpen only the pointed lower half of the orifice. If this orifice were sharp around its whole circumference it might cut out a circular piece, as has often been done by Mr. Wells's instrument, when badly made.

Dr. Harlow suggested that, as in multilocular cysts, there may be fluids of various densities, it would be impossible to introduce a sound through the curved tube to clear away the thickened fluid.

Dr. Hodge replied that the remedy for that was in the use of a flexible bougie. Practically, as soon as the fluid becomes so glutinous that it will not flow, the cannula must be taken out. There are some cysts the fluid of which will not flow through any tube.

On Drainage in Ovariectomy.

At the last meeting of the Association of German Naturalists and Physicians, Dr. PAULI, of Posen (*Berliner Klinische Wochenschrift*, Nov. 23, 1874.), spoke on ovariectomy with drainage; and from the result of two witnessed cases he recommended Sims's suggestion of prophylactic drainage with large adhesions, keeping the abdominal cavity open for some time, continuous cleansing with sponges, and also with depression of the pedicle. Drs. Martin, Ebell, and Spiegelberg agreed with Dr. Pauli, and as the result of their experiences strongly advocated this method. The latter (Dr. Spiegelberg), in his last case of ovariectomy, in which the pedicle became repeatedly untied and sank down, gave up the trial with the drainage. The patient, it is true, recovered, but from the bursting of an abscess into the peritoneal cavity got diffused peritonitis and made a difficult recovery. In a case where the cyst ruptured into the peritoneum during the operation, with Sims's drainage, the patient became rapidly well, with hardly any reaction.—*London Med. Record*, Feb. 17, 1875.

Medical Jurisprudence and Toxicology.

The Poisonous Action of Tincture of Arnica upon the Skin.

Dr. JAMES C. WHITE reports (*Boston Med. and Surg. Journ.*, Jan. 21, 1875) three cases of skin affection, in which the nature and cause of the disease, he thinks, cannot be misinterpreted. "In all of them we have an acute inflammatory process, confined to the upper dermal layers, and manifesting itself, according to the stage reached, by the following appearances: hyperæmia, papules,

vesicles, excoriations, crusts, and scales, in regular sequence. The local sensations were intense itching and some degree of burning in the parts affected. There was no constitutional disturbance. In course, character, and sequence of the lesions in their development and retrogression, in the intensity of the subjective and absence of constitutional symptoms, the affection is unmistakably acute eczema. It may be that cases occur in which the inflammation extends so deeply and reaches so high a degree, as to warrant the title dermatitis, but I have never seen them.¹

"The cause was also plainly manifest. The inflammation followed in all the cases the application of tincture of arnica to the skin as a fomentation. In one of the instances, the first, the epidermis may have been slightly broken; but in the others the skin of the parts was whole and healthy at the time of the applications. The inflammation began to show itself after intervals varying from a few hours to several days, and was confined to the part to which the application was made, or extended from this as a centre. In the last case the disease was developed also upon the other knee and upon the face, but by direct contact, nevertheless, with the exciting cause, for the right knee was in contact with the left during the nights that the fomentations were applied to the latter, and the face was frequently rubbed (a constant habit of the patient) with the hands while applying the fomentation. That the hands were not likewise affected may be accounted for by the greater resistance to absorption offered by the thickened epidermis of the palms.

"These three cases will serve, as well as more which might be presented, as typical illustrations of the action of arnica at times upon the skin. The affection, as will be seen, follows a very regular course in the character, distribution, and duration of its lesions, differing widely in some of these respects from the wayward manifestations so peculiar to the action of rhus. Like the latter, arnica must therefore be regarded as an irritant poison when applied to the skin of some persons, but of less intensity and probably of less certainty in its action than rhus. With regard to this latter point, the proportionate frequency of poisoning after its external use, I do not know that we can form any judgment."

Dr. White believes that cases of poisoning from arnica occur not infrequently, but that they are not recognized. The appearances which follow its use are no doubt often mistaken for the immediate effect, or the sequelæ, of the injury or other trouble for which it was applied. Even the physician, there can be little doubt, often fails to recognize the artificial nature of the eczema he is called to treat, and to connect it with the prior application of arnica to the skin. The almost universal belief in its harmlessness, too, would prevent in most cases the patient from communicating to the physician the fact of its use before the appearance of the disease. It is not to be wondered at, however, that physicians are so little acquainted with these poisonous properties, when we see how little mention is made of them in medical literature.

It is to warn physicians who may be ignorant of these properties belonging to it, and that through them the public may be more generally informed concerning the dangerous character of one of the most popular and useless among domestic external remedies, that I have thus brought the subject before the profession.

On Poisoning by Chloral Hydrate.

Dr. B. W. RICHARDSON reports (*Brit. and For. Med.-Chir. Review*, Jan. 1875) a case in which a patient was rendered insensible from a dose of the narcotic of not less than 240 grains and recovered. The subject of this accident was a middle-aged man of full habit and vigorous constitution. He had suffered from neuralgic pains, and had been also subjected to severe mental

¹ Since writing the above I have received the last report of Professor Hebra's skin clinic, in which it is stated that an apprentice rubbed his foot with tincture of arnica and produced so severe a dermatitis as to cause destruction of a portion of the tissues.

labour, from his professional work. From time to time he had taken chloral as an anodyne, and could bear a dose of from forty to sixty grains with what he considered benefit rather than impunity. After a few days of unusual fatigue and worry he became quite sleepless at night-time, and after two restless nights he commenced early on the morning of the third day, during which the symptoms had continued, to take chloral. His first dose was fifty grains, and, as sleep did not follow it so soon as was desired, he took twenty grains speedily after, certainly within the hour. A bottle containing the remainder from half an ounce was in his room, and a little later still, while in a semi-conscious state, he mixed the whole of the contents of the bottle with water and swallowed the draught. For several hours after this he was supposed to be simply sleeping, the repose was so placid and so perfect. But at length the symptoms took a more serious turn; it was found that he could not possibly be roused, and the breathing became stertorous. Two hours after this, and nine hours after the last dose of the chloral had been taken, the patient came under the observation of the reporter. The symptoms were as follows: The body was flaccid and the limbs were easily moved, remaining in the state in which they were left, as is seen in catalepsy. The temperature of the body in the mouth was 98° F., in the axilla 97°; over some parts of the surface of the body there was an inclination to perspire, and on the brow there was at times a free exudation of water, the water standing out in large drops. The face was intensely flushed, the ears carmine red, and the redness of skin was, indeed, more or less perceptible over the whole of the body. When the skin was firmly pressed with the finger over parts where there was resistance of bone beneath, the blood, on removing the pressure, rushed into the part, giving a peculiarly well-defined, deep red mark, which lasted from three to four minutes. The pupils were dilated and refused to contract even under the influence of a strong light. The body over its entire surface was insensible to impressions, and the senses were equally deadened. The coma was deep, as in apoplexy, and the breathing was stertorous but not blowing. No efforts could arouse the sleeper. The odour of the breath was faintly ethereal, somewhat of the odour of methylic ether; the breathing, though stertorous, was regular, at twenty-eight per minute, and the auscultatory sounds were clear, except that in the regions of the larger bronchial tracts there was at intervals a faint mucous râle. The pulse was soft, but full and steady, giving sixty-four strokes per minute. The sounds of the heart were normal, but occasionally there was slight attempt at intermission in the stroke. Unfortunately a sphygmograph to take an arterial tracing was not at hand.

These were the leading symptoms in this case; they were sufficiently clear to supply the diagnosis of chloral narcotism before the facts about the administration of the agent were related. The treatment followed was that we originally suggested for such cases. The danger of death is from condensation of fluid in the minute bronchial canals from decrease of animal temperature, and the first point insisted upon, therefore, was to sustain, by every available means, the already failing animal heat. The bladder was watched, that it should not become distended with urine, and warm food (milk) was administered into the stomach while still the patient was unconscious. After seven hours, during which time the case was carefully observed, some signs of restless movement indicated a rallying from the lethargy, and soon afterwards the sleeper, though he knew nothing of the fact afterwards, rose, with assistance, and passed urine. Then he swallowed drink and again sank into deep slumber, but without stertor. Six hours later he again awoke more conscious; he passed urine and took fluid food. He reclined once more to sleep, and on the following visit, next day, twenty-six hours after partaking of the narcotic potion, he was still drowsy and disinclined to move, but was conscious and capable of helping himself to move and to swallow. He had no remembrance whatever of the events that had occurred nor of the time that had elapsed. He made a rapid and perfect recovery.

On Poisoning by Carbolic Acid.

MR. F. WARREN, resident surgeon at Steevens' Hospital, Dublin, relates (*Irish Hospital Gazette*, January 1) the case of a man who drank some solution of carbolic acid intended for disinfecting purposes, mistaking it for whiskey. Its action was most rapid; he immediately became insensible, falling down suddenly as if in a fit; on his recovery he said that he remembered nothing whatever after tasting the liquid. When brought to the hospital he was suffering also from extreme syncope. The stomach-pump was used, stimulant enemata administered, and after about seven hours he recovered his consciousness and gradually rallied from the depression. An attack of acute gastritis followed. The urine passed the day after the accident was almost black, but was free from turbidity, and no trace of carbolic acid, blood, or albumen could be detected in it.—*London Med. Record*, Feb. 17, 1875.

Severe Internal Injuries, the Skin remaining entire.

Several examples of this are on record, but one recently communicated to the Medico-Chirurgical Society of Edinburgh by Dr. LITTLEJOHN, is deserving of notice. The subject of the case was a railway official, who, in attempting to leap on a train in motion, fell between the carriages. Both the wheels of one carriage passed over his body. What was remarkable was, that, although the internal injuries were aggravated, the external skin was entire, and only here and there abraded. The heart, which was lying loose in the cavity of the chest, had been cleanly removed from its attachments as if a knife had been employed. It was firmly contracted and empty. The ribs on both sides were shattered. The spine was fractured and separated, and the left lung was ruptured. The diaphragm was intact, but the liver was ruptured at its base.—*Edinburgh Med. Journ.*, Jan. 1875.

Hygiene.

On some Effects produced by Sewer-Air.

Amongst the subjects which were brought under the notice of the Birmingham Sanitary Conference, in the discussion which followed on the reading of the papers which had been specially prepared, one of the most interesting was the experience which Dr. A. FERGUS of Glasgow had acquired after a series of experiments as to the value of water-trapping as a means of preventing sewer-air from entering into dwelling-houses. The principal object Dr. Fergus had in view, was to show that the few inches of water, which are as a rule placed as a barrier between the sewers and the interior of houses, and which are dignified by the name of a siphon-trap, afford in reality no protection against sewer-poisoning. At one time, Dr. Fergus thought it quite possible to keep the results of the decomposition which is constantly going on in sewers out of houses, but he has abandoned the opinion with great reluctance, and he states that he has been led to the views which he now holds, after considerable experiment, observation, and reflection. Dr. Fergus exhibited at the Conference a number of decayed and perforated soil-pipes, the perforations being from within outwards, and being so situated on the upper surface of the pipes, that the destruction of lead could not possibly have been caused by any fluid which had passed through the pipes. The pipe, which was most frequently so affected, was stated to be the cross one, leading from the closet to the main descending soil-pipe; and if there were a bend or arch in the pipe, the upper surface of the bend or arch would become perforated. Now, how does such a destruction of good and well-made soil-pipes take place? Dr. Fergus answers, unhesitat-

ingly, that it is due to the action of sewer-gas; and he supports this view by showing the increased rapidity with which the destructive action takes place, when the soil-pipes are unventilated. Attention, it appears, was first drawn to this condition by the frequency with which complaints were made of offensive odours arising near the water-closets, in houses where cases of enteric fever and diphtheria had occurred; and inquiry as to the general sanitary circumstances of these houses, and as to the history of the patients who were attacked, seemed to leave but little doubt that the offensive and dangerous effluvia emanating from these perforated pipes and the diseases in question, were related to each other as cause and effect. But what is most striking is the fact that these house soil-pipes were in each case trapped before they entered the drains, and yet the sewer-air was able to get through the trapping and destroy the lead. The question naturally arises, Can this be due to some great tension in the sewer, either from its entering a tidal river or from any other cause, resulting in a temporary failure of the trap? Or, again, Can this state of the soil-pipes be peculiar to Glasgow, and has it been produced by some chemicals getting into the sewers? In answer to these questions, Dr. Fergus, who has dealt fully with this subject, in an address which he delivered before the Sanitary and Social Economy section of the Glasgow Philosophical Society, states that the cause must be one of pretty constant action, sewer-air being absorbed by the water on the sewer side of the trap and discharged on the house side of it, in sufficient quantities to produce the result described; and, with regard to the second question, many inquiries are stated to have been made, and the same thing was found existing in every water-closet town in reference to which Dr. Fergus obtained information. Speaking generally, it appears that where the soil-pipes are closed, or unventilated, this destructive action has been found to take place in about twelve years, the extremes of variation being from a minimum of eight to a maximum of twenty years; whereas when the soil-pipes are ventilated, as by being carried up to the roof of the house where they are left open to the external air, the time required for their perforation may be stated to be nearly double. Applying this experience to water-trapping in general, Dr. Fergus asserts that, however well drains may be tapped, sewer-gas will find its way through them into our houses; and with a view of illustrating this, certain experiments were made, the results of which were brought before the Birmingham Conference. A series of tubes were procured, bent so as to resemble the trap which is ordinarily, though erroneously, called a siphon-trap, and in the lower curve of each of these tubes water was placed to effect the trapping. Various gases were then admitted without pressure into the tubes. The first experiment was carried out with ammonia, and it was found that in fifteen minutes it had passed up the tube through the water, and had discharged the acid with which some litmus paper, suspended over the upper surface of the water, had been reddened. Very similar results were produced with other gases, quite irrespectively of their being lighter or heavier than atmospheric air; thus sulphurous acid passed through the water in an hour, and carbonic acid gas and sulphuretted hydrogen in about three hours. The same experiments were repeated after an open pipe had been inserted into the bend of the tube, so as to resemble the ventilating pipe of an ordinary water-closet soil-pipe, and the same results were obtained, although the reaction was in each case longer in showing itself. The results obtained by Dr. Fergus are extremely interesting, and they point out strongly how misplaced is the confidence which the public have been led to repose in the traps with which every house is provided, and how important it is not only thoroughly to ventilate our house-drains, but to subject our soil-pipes to periodical examination. How far similar results would be produced provided the public sewers were thoroughly ventilated by the admission of an abundance of atmospheric air into them, as well as by the provision of ample means of egress for the foul air, we do not know; but we should hardly be doing justice to Dr. Fergus, unless we stated that he has arrived at the conclusion that excreta should either not be admitted into our sewers at all, or if admitted, they should first be subjected to such chemical action as would render their decomposition impossible.—*British Med. Journal*, Feb. 27, 1875.

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Anatomy and Physiology.

On the Physiology of Vomiting and the Action of Anti-emetics and Emetics.

Mr. T. LAUDER BRUNTON, in a learned and extremely interesting paper on this subject (*Practitioner*, Dec. 1874), thus sums up the chief points in relation to vomiting and the action of drugs upon it:—

1. Vomiting consists in two factors, viz. (1) the simultaneous compression of the stomach by the abdominal muscles and diaphragm, and (2) the opening of the cardiac orifice by the contraction of the longitudinal fibres of the œsophagus.

2. When innervation is disturbed these two factors do not occur together, and thus retching may occur without vomiting.

3. The movements of vomiting are correlated by a nervous centre in the medulla oblongata, from which impulses are sent down through various motor nerves to the muscular structures engaged in the act.

4. This nervous centre is probably closely connected with the respiratory centre, but is not identical with it.

5. It is usually set in action reflexly by irritation of the pharyngeal, gastric, hepatic, enteric, renal, uterine, ovarian, and possibly also by the pulmonary and vesical nerves which come from the periphery towards it. It may also be excited by impressions sent down to it from the brain.

6. Vomiting may be arrested in two ways, either by removing the irritant which is exciting the vomiting centre, or by lessening the excitability itself, so that the centre no longer responds to the impressions made on it from without.

7. Emetics may be divided into two classes: those which act only on the stomach, and those which act on the vomiting centre also.

8. Tartar emetic probably acts in both ways. Tolerance of it is probably due to want of hydrochloric acid in the stomach.

9. Emetics may be used to evacuate the stomach and duodenum. They thus remove irritating matters, poisons generated in the stomach by putrefaction, bile, and metals or fever poisons circulating in the entero-hepatic circulation.

10. They may be also used to empty the bronchi and gall-bladder, or to cut short epileptic and to prevent ague fits.

The Magnetic Force of Blood.

A paper was read at the Royal Society on December 10th, by Dr. SHETTLE, of Reading, on the paramagnetic condition of arterial blood as distinguished from the diamagnetic condition of venous blood. The following is an outline of the author's views. This paramagnetic force is due to the presence of oxygen, under the influence of which gas, all the phenomena of animal life are performed. It had been previously ascertained, that the corpuscles of the blood are paramagnetic in both the arterial and venous states; but these experiments by Dr. Shettle prove that paramagnetic force exists in arterial blood which becomes converted into diamagnetic force when the blood passes into unstimulating

venous blood. It is true, that the paramagnetic force thus displayed, is small in amount when compared with iron or other paramagnetic bodies of a similar nature, but it is in proportion to the amount of oxygen which the arterial blood contains, for it is a physical property of oxygen. The author of the paper affirms, that in proving arterial blood to possess this force, he proves also, that the stimulating force of arterial blood is due to magnetism, for each atom or molecule of oxygen that is carried into the system by means of the blood, must exercise a paramagnetic—that is, polar influence—over the growing tissues, all of which are known to be diamagnetic to oxygen. In a paper by Dr. Shettle, published in the *Medico-Chirurgical Review* for January, 1871, he indicated the mode in which the heart's action would be stimulated if the blood were paramagnetic, and referred the formation of the ganglia of Beale to the action of the same force. In his present paper, he proves the existence of that paramagnetic force by defibrinating blood in the arterial and venous conditions, and then testing them antagonistically to each other. He is now engaged in conducting other experiments with a view to demonstrate that the phenomena of life may be attributed to the molecular action of such force according to the laws of magneto-electricity, or electro-magnetism.—*Brit. Med. Journ.*, Jan. 9, 1875.

Materia Medica and Therapeutics.

Action of Certain Medicines on the Vessels.

SCHÜLLER experimented on rabbits by removing, with a trephine, a portion of the upper part of the parietal bone without injuring the dura mater, and generally at the same time taking away the cervical sympathetic with the superior cervical ganglion of the same side. He was thus able to observe the vessels of the pia mater, and to notice any changes in their filling. The substances with which he experimented were mustard, nitrite of amyl, ergotin, opium, and chloroform. Small sinapisms produced scarcely any effect on the vessels; the application of large ones, on the one hand, was first regularly followed by dilatation, which was followed by more or less rapidly alternating changes in the calibre of the vessels, and finally by contraction, which often continued an hour and a half after the removal of the sinapism. To explain these phenomena, Schüller supposes that at first the irritation of the sensory cutaneous nerves produces, by reflex action, a partial paralysis of the vasomotor nerve-fibres (dilatation), and that later on the influence of the peripheral congestion exerts its influence and ultimately gains the upper hand (oscillations of calibre and contraction).—After nitrite of amyl, there was a very evident dilatation of the vessels of the pia mater, both arteries and veins. It could be observed even on the side where the sympathetic had been injured, and where there was already dilatation of the vessels; and took place both after section of the vagus and in curarised animals. This action, according to Schüller, depends on the degree of filling of the vessels, and the capability for reaction of their muscular structure.—Ergotin produced a strong and long-continued contraction of the vessels of the pia mater, even on the side where the sympathetic was injured. Schüller regards ergotin as standing in a certain antagonistic relation to nitrite of amyl, inasmuch as the contracting action of the former overcomes the dilating action of the latter. Opium produced first dilatation, then contraction.—After the inhalation of chloroform, there was a commencing contraction of the vessels; but very soon they became relaxed, and well-marked venous stasis was developed. Nitrite of amyl not only very quickly removed this action on the vessels of the pia mater, but, when chloroform narcosis was carried to a far more advanced stage, under the action of nitrite of amyl the laboured dyspnoeal respiration and the pulse

quickly recovered themselves. and in a remarkably short time reflex excitability was restored.—*Brit. Med. Journ.*, Feb. 27, from *Berliner Klinische Wochenschrift*, Nos. 25, 26, 1874.

Salicylic Acid.

Attention has been directed recently to the antiseptic qualities of this product, which can now be produced by synthetic chemical processes. Salicylic acid is slightly yellow in colour, taking the form of very fine crystals, which are readily soluble in alcohol and ether, and in hot water, but not in cold water. The melting point is 318 degs. Fahr. If heated rapidly, it is resolved into carbonic and carbolic acids. Under slow heat, it sublimates without decomposition. The composition and the qualities of this acid led Professor KOLBE to infer, what has since been found true by Professors Knapp, Neugebauer, Thiersch, and others, that salicylic acid possesses valuable antiseptic qualities as a preventive of fermentation and putrefaction. In many respects, salicylic acid is, it is stated, preferable to carbolic acid, from its absence of smell and its not unpleasant taste. It is applicable for either external or internal use, in rather large doses, without injurious effects; and it has been employed beneficially in surgical cases. The great value of the acid will be its preservative effects on provisions of every description—a purpose to which carbolic acid is unsuited. Professor Neugebauer's experiments showed that a small quantity of salicylic acid was not only sufficient to prevent the second after fermentation of wine and consequent muddiness which this produced, but that it also prevented the formation of fungi in the casks. Professor Kolbe's experiments proved, that half a *gramme* of the acid was sufficient to check the fermentation produced by 5 *grammes* of yeast in a solution of 120 *grammes* of sugar dissolved in one *litre* of water. From these data, a fair estimate of the quantity to be used for the preservation of champagne, beer, and syrups, intended for exportation, can be formed. Another important use which Professor Kolbe suggests is its application to the prevention of decomposition of water on board-ship, by the addition of the acid in the proportion of 1 to 200,000, by covering the bung-hole of the casks with cotton-wool steeped in salicylic acid; the preservation would be effected by the filtration of the air. Provisions could also be preserved by the application of the acid on the surface. It was found that the process of curdling in milk was retarded for thirty-six hours, by the addition of 6.04 per cent. of salicylic acid. These effects were obtained from free salicylic acid, and not from any of its salts. Professor Kolbe suggests, also, that the acid is peculiarly adapted for use as a toilet requisite for dentifrices, and as a preventive of the disagreeable odour caused by fetid perspiration, without producing any injurious effects. For the still more important purposes of surgical dressing, Professor Thiersch and Dr. Fehling, who have used it somewhat extensively, report that it arrests the smell of putrefaction without producing any appreciable inflammation; and that a solution of 1 part of salicylic acid, 3 of phosphate of soda, and 50 of water, will promote the growth of skin over granulating surface. In surgical operations, a spray of acid and water, in the proportion of 1 to 300, has been used, and the wound dressed with wadding soaked in the solution. In the lying-in hospital at Leipsic, salicylic acid is used instead of carbolic, in vaginal diseases, and for dressing puerperal ulcers. As the acid is soluble in fatty oils, it can be used, like carbolic acid, for Lister's bandages. Its use internally has been suggested for those diseases which are contracted from contagion.—*British Med. Journ.*, February 20, 1875.

Prof. HORSFORD communicates to the *Boston Med. and Surg. Journ.* (March 11, 1875), the following abstract of two papers just received from Prof. KOLBE, containing the results of experiments made at Leipsic with salicylic acid.

In the lying-in hospital of Leipsic, salicylic acid has been employed to the exclusion of carbolic acid since July last: for disinfection of the hands, in vaginal douching, application to ulcers puerperalia, etc., in solution in water

of one part in three hundred to one part in nine hundred, or as a powder mixed with starch in proportion of one part in five. This use of salicylic acid has thus far been attended with such successful results that it is recommended in the strongest terms for use in obstetric practice, by the authorities of the hospital.

Professor Kolbe suggests that physicians, and especially hospital physicians, should study the action of salicylic acid as a medicine, whether and in what quantity of larger or lesser doses it will influence scarlet fever, diphtheria eruptions, syphilis, dysentery, typhus, cholera, etc.; and whether it may be used against pyæmia and the bites of dogs; also whether it may not be used advantageously among horses, cattle, and sheep to prevent glanders, foot-rot, mortification, and so forth.

Kolbe, to prove the innocuousness of salicylic acid, took for several consecutive days half a gramme (seven and a half grains) daily in water, one part to one thousand, without the slightest observable unpleasant effect. After an interval of eight days he took for five consecutive days one gramme (fifteen and a half grains) daily, and then for two days one and a half grammes (twenty-three grains) in alcohol each day. The digestion was perfectly normal; no trace of salicylic acid could be found in the urine or feces. (The test is perchloride of iron, which gives an intense violet color.) At no time was there the slightest discomfort.

The experiment was repeated by Professor Kolbe and eight of his students, all at the same time. Each took on the first day one gramme, and on the second day one and a quarter grammes, of salicylic acid. Not one of them was able to observe the slightest derangement of any organs.

The acid in diluted solution is employed to wash the feet to prevent the offensiveness arising from the butyric, valerianic, and other related acids in sweat. It is also used as a constituent in tooth-powder, and for a liquor to wash the mouth.

Professor Wunderlich, of the University Hospital, Leipsic, recommends a medicinal preparation of salicylic acid for internal use, consisting of—

Acidi salicylici	1 gramme.
Olei amygdalæ dulcis	20 grammes.
Gummi Arabici	10 “
Syrupi amygdalæ	25 “
Aquæ florum aurantii	45 “

Kolbe proved by experiment in the bath that the salicylic acid is very little if at all absorbed through the skin.

C. Neubauer (a pupil of Professor Kolbe) has experimented with salicylic acid to determine the quantity necessary to arrest fermentation in solutions of sugar and in new wine. He found that one gramme of salicylic acid is adequate to make 0.98 gramme of press yeast (weighed dry) in ten litres (about ten quarts) of new wine incapable of fermentation.

Kolbe found that $\frac{1}{20000}$ of salicylic acid would keep river or pond water in casks perfectly fresh (the experiments continued four weeks in a warm room) where without the acid the water acquired unpleasant taste. This quality will make the salicylic acid serviceable in preserving water on long sea-voyages.

Action of Jaborandi on the Digestive Organs.

In an article inserted in the *Gazette Médicale* for March 20, Dr. ALBERT ROBIN, who has been making under the auspices of Prof. Gubler so elaborate an investigation into the properties and action of jaborandi (*Pilocarpus pinnatus*), enters at some length into a consideration of the effects it sometimes produces on the digestive organs.

Salivation, exudation, and the increase of the lachrymal, nasal, and bronchial secretions, he observes, are normally, with rare exceptions, the sole actions induced by this drug. This is what occurs in the physiological condition of subjects who are in good health, its influence on the digestive tube being quite trifling—the patient sweating, spitting, and weeping, without any other imme-

diate phenomenon being produced. But many circumstances may induce a deviation in the action of the agent from its habitual type; and then it is upon the alimentary canal that this is manifested. Therefore, we may lay down an almost absolute rule that when the hypersecretions habitually induced by *jaborandi* are absent, or undergo a notable diminution in their general and collective intensity, compensatory action is always found in the digestive canal. The phenomena which then ensue are of two kinds—first, the normal, which are nearly constant, and depend upon the general effects of the medicine, of which they are the direct consequence; they are the intense thirst which accompanies and follows sudation, and changes in the appetite, which is sometimes diminished and sometimes exaggerated. Secondly, the accidental, which appear whenever the normal action of the *jaborandi* is impeded by any cause, or certain precautions have been omitted during its administration; they are vomiting and diarrhœa. This division is not absolute, for vomiting may appear during normal action, but it holds good in the great majority of cases.

1. *Thirst*.—As a general rule, after swallowing a cup of tepid infusion, a sense of warmth is felt in the region of the stomach, and then thirst supervenes and still continues, even after the termination of the sweating. As the result of observation the precept may be laid down that the patients should be prevented drinking to quench their thirst, as this is a frequent cause of vomiting. A little very weak coffee, or a light infusion of peppermint, etc., may be administered.

2. *Appetite*.—This is rarely diminished, but is often increased after the termination of the sweating. One patient, who in thirty days took *jaborandi* fourteen times, became more hungry after each administration.

3. *Vomiting*.—This has been met with thirty-eight times in ninety cases—i. e., in forty per cent. This proportion might lead to the belief that it is one of the normal effects. It is not so; and when the causes of such vomiting are known, it may, in general, be prevented. (a.) *Influence of the dose and preparation*.—viz., when the dose is too large or the leaves too fresh. Vomiting from this cause, which is preceded by nausea, comes on some minutes after taking the infusion, and usually before the medicine has had time to produce its special effects. (b.) *Influence of food*: It is indispensable that the patient should take *jaborandi* in a fasting condition. This rule is a very important one; for seventy per cent. of those who did not observe it vomited, and that even when one or two hours had elapsed since the meal. The vomiting may take place either at the commencement or in the midst of the sudation—the effects of the medicine being, of course, less energetic and of shorter duration. (c.) *Influence of the saliva*: It is essential for the patient to be enjoined not to swallow the saliva that is produced during the salivation; for otherwise vomiting will infallibly occur. This takes place at the end of the sudation, it being almost pure saliva that is rejected. (d.) *Gastric hypersecretion*: In some cases in which there has been but slight sudation, at the end of this a colourless acid fluid is vomited, which is really gastric juice. In other instances the matters vomited are clear, bilious, and alkaline. These cases are explained by the deviation of the habitual action of the *jaborandi*, analogous to that which is produced in animals who do not sweat, and in whom all the effects of the agent seem to be concentrated on the alimentary canal. The acid, and especially the bilious, vomitings are produced whenever sudation is not freely developed, as when it is checked by a chill just as it is about to be produced. After the vomiting, and the diarrhœa which usually accompanies it, the sudation that has been thus interrupted is either not re-established or only imperfectly so. Where the existence of a chill cannot be ascertained, an idiosyncrasy may possibly exist. It is thus seen that in the great bulk of cases the causes of vomiting may be ascertained and avoided; and this is of importance, as for many persons the nausea and vomiting are such distressing occurrences that they would induce patients to refuse to continue the medicine.

4. *Diarrhœa*.—It not unfrequently happens that just before the sweating commences, or in a few hours after its termination, the patient has one or two soft or even liquid stools. As after these all goes on as in the normal condition, they are of no consequence. But when there is a deviation in the action

of the jaborandi, the vomiting that then occurs is always accompanied by a diarrhoea of variable abundance, which is generally preceded by colic. It is not, however, of long duration, ceasing, like the vomiting, after some hours, when the active principles of the jaborandi have been eliminated by the gastrointestinal canal.—*Med. Times and Gaz.*, March 27, 1875.

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On the Action of Amyl-Nitrite on the Vascular Tonus and on the Heart Beat.

Dr. W. FILEHNE finds (*Pflüger's Archiv*, ix. 470), as most experimenters have done, that the inhalation of amyl-nitrite causes a considerable dilatation of the bloodvessels of the head and upper part of the body. From a review of former experiments he concludes that the mechanism of this dilatation (*i. e.*, whether it is due to an action on the vessels themselves or on their nerve centres) is still a matter for investigation. He adduces as an argument against the direct action on the vessels the fact that only some of these are dilated, and that the limits of the area of vascular dilatation are pretty sharply marked. If, then, the vessels were affected by the local action of the nitrite it would be difficult to explain how neighbouring vessels, through which the same blood was passing, should react so differently. Again, if the vessels were directly affected, those of the lungs, by which the absorption occurs, ought to be most dilated. But having made a window in the chest wall of a rabbit, sparing the pleura so as to avoid entrance of air, Filehne saw no change of colour of the lungs to follow inhalation of amyl-nitrite, although the vascular dilatation in the vessels of the ear was extremely marked. He considers the question is settled by the following ingenious experiment: The sympathetic was divided on one side in the neck of a rabbit. The vessels of the ear on that side dilated. The upper segment of the divided nerve was then irritated by an induction current of such strength that the vessels were brought into a condition of mean contraction, so as to equal in size those of the sound side. Amyl-nitrite was then administered through a tracheal fistula, so as to avoid the spasm of respiration produced by its contact with the nares. Immediately the vessels of the sound side dilated, while those on which the divided nerve was being irritated remained unaffected. By this is shown that the action of amyl-nitrite is not on the vessels, nor on the nerves, but on the nerve centres. The effect of amyl-nitrite on the heart was found to be different in frogs and in mammalia. In both classes of animals a *large* dose caused slowing and feebleness of action. A small dose in frogs produced no effect, but in mammalia (men, rabbits, dogs) a very considerably increased rapidity was noticed. That this was due to a paralyzing action on the vagus centre in the medulla oblongata was shown by a somewhat similar experiment to that noticed above. The author divided both vagi in the neck of a rabbit, and then faradized the lower end of one of them with a current of such strength that the rapidity of pulsation of the heart was the same as before the operation. Then amyl-nitrite was administered, and although the effect on the vessels of the ear was well marked, no increase in the cardiac pulsations occurred. The difference in the effects of the drug on frogs and mammals is explained by the absence of a *constant* inhibitory action of the vagus on the heart in frogs. If in these animals the vagi be divided, no increase in the number of pulsations occurs, while such an increase always occurs in warm-blooded animals, showing that, in them, the vagus is constantly in action. The increased rapidity of respiration which follows inhalation of amyl-nitrite is supposed not to depend on a direct influence exerted on the respiratory nervous centres, but to be due secondarily to the alterations in the vascular tonus and the cardiac action. A paralyzing action on the vaso-motor centres of the head and neck and on the vagus centre, similar to that caused by amyl-nitrite, is produced in men by mental emotion, such as shame, or timidity, which is accompanied by blushing and increased frequency of pulse. For interesting remarks on this similarity of effect, and for a criticism on former experiments, we must refer to the paper itself.—*Irish Hospital Gazette*, February 15, 1875.

On the Remedial Value of Nitrite of Amyl.

A discussion on this subject took place at a meeting of the Berlin Medico-psychological Society on December 7 (*Berliner Klinische Wochenschrift*, February 15, 1875). It was opened by Dr. SOLGER, who gave a brief account of the experimental results arrived at by Filehne. The latter attributes the blushing caused by inhalation of two to five minims of the nitrite to paralysis of a centre, situated in the brain, which presides over the innervation of a particular vascular region. The vagus-centre is temporarily paralyzed at the same time; hence the quickening of the pulse. Solger observed that, in his own case, prolonged exposure to an atmosphere charged with the vapour of the drug caused first drowsiness, and then wakefulness; the latter being attended by warmth of the extremities. He suggests that other vaso-motor centres, such as those shown by Goltz to exist in the spinal cord, may also be paralyzed by nitrite, its action on the vaso-motor centre in the brain being only the first and most sudden of the series. Brilliant results were obtained from the drug in certain forms of epilepsy and loss of consciousness. Its action in vertigo proved capricious; it failed to relieve this symptom in two cases in which it was connected with malarial poisoning, and yielded to the administration of quinia. The vapour was given to an infant under twelve months old, suffering from one-sided clonic convulsions; the usual physiological effects ensued, but the convulsions were in no way modified. Subsequently inhalation of chloroform checked them for a considerable time. An adult, suffering from epileptic fits ushered in by an aura in the right leg, was directed to inhale nitrite of amyl as soon as the aura made itself felt; this was invariably found to prevent the subsequent loss of consciousness and convulsion. For convenience of administration, Solger recommends the use of large capillary tubes, containing three to five minims each; these are charged with the nitrite and sealed at both ends; when required for use, one tube is folded in a bit of rag and broken up with the fingers, thus furnishing a sufficient dose of the vapour.

JASTROWITZ stated that he had found the drug useful in asthma, but quite useless in patients suffering from melancholia. He doubted whether the hyperæmia of the cerebral vessels occasioned by the nitrite extended to the entire brain; the absence of any visible change in the bloodvessels of the optic disk, either during or after inhalation, leading him to believe that the dilatation of the arteries is confined to particular regions of the brain.

SADNER corroborated the statements of Jastrowitz as to the occasional benefit derived from vapour of nitrite of amyl in asthma. He found it useless in the psychoses, and in epileptic fits not preceded by an aura. In two cases, the cessation of inhalation was followed by alarming symptoms of collapse. This may perhaps be explained by an observation of Schüller's, who found that the dilatation of the arteries of the pia mater under the influence of nitrite of amyl was followed by a marked narrowing of the calibre.—*London Med. Record*, March 17, 1875.

On Apomorphia.

In the *Bulletin Médical de la Suisse Romande*, for November, 1874, Dr. PRÉVOST reports a case in which the subcutaneous administration of from three to four milligrammes of apomorphia in a woman attacked by angina complicated with gastric troubles, produced a disquieting collapse and a tendency to syncope, which lasted from a quarter of an hour to twenty minutes, during which time the pulse could scarcely be felt, and the pupils were dilated. In this case, the usual vomitings appeared in about five minutes and were several times repeated. The patient fell into a profound sleep, which lasted about half an hour after the phenomena of collapse. The following day the patient was in a satisfactory condition, the vomiting having markedly improved her condition. It is a question whether in this case the state of collapse should be attributed to the mere effect of the sickness, or to the account of the apomorphia, though that was administered in very much smaller doses than is usual (one centi-

gramme). M. Prévost refrains from pronouncing any opinion on this point. Bearing in mind the cases of collapse observed by Harnach, he recommends prudence in the administration of this drug.—*London Med. Record*, March 24, 1875.

On the Action of Conicine on Cutaneous Sensibility.

M. GUBLER, in the *Bulletin de Thérapeutique*, for January 30, 1875, in the first instance relates facts showing that hemlock modifies sensibility, and specially points out the well-known phenomena of the death of Socrates, and the case recorded by Hunter, in which a man who had taken a large dose of hemlock lost the power of using his fingers. He goes on to relate a circumstance lately observed by him, in which this action on sensibility was of the clearest nature. A lady applied some conicine ointment with the fingers of her right hand to a cancerous tumour in the region of the liver, under which her husband was suffering. After some time the fingers with which she was rubbing the tumour, lost all feeling; she then changed the hand and used the left hand with a glove on, but again all sensation left the fingers. These phenomena disappeared quickly so soon as she left off using the ointment. M. Gubler lays stress on this fact as an evidence of the reality of the modifications produced by conicine in sensibility, a proposition already laid down by him in his commentaries on therapeutics.—*London Medical Record*, March 24, 1875.

Medicine.

Pyrexia and Apyretics.

The increasing use of the clinical thermometer by medical men generally, gives an importance to the subject of pyrexia, and renders a clearer comprehension of the matter than hitherto has existed eminently desirable. The mere insertion of the thermometer into the axilla of a patient, and its withdrawal after some minutes, and a reading of the temperature registered, do not constitute all that the thermometer can teach us. It is not the mere ascertaining an interesting fact, and the impression upon the mind of the patient and the surrounding friends, which should be the sole outcomes of thermometrical observation. The amount of rise of temperature is in itself certainly a matter of importance, from the effects of an increase of temperature upon the tissues of an organism. But there are other matters to be noted as well as the mere amount of the increment of body heat. In fact, the use of the thermometer necessitates an accompanying intelligence upon the part of the observer, just as much as in the case of the stethoscope. The mere increase in temperature is a barren fact, if it carry not with it a clear comprehension how that increase of temperature is arrived at. There are practical considerations associated with this question which are of much importance. It may then be desirable to consider briefly the various modes by which an increase in body heat may be attained.

Rosenthal has divided the body into an internal heat-forming zone, and an external or heat-losing surface, with an intermediate zone lying betwixt them. By the back and forward play of these two areas, the body-heat is maintained. When the surrounding temperature is low, the skin is cold, dry, and marbly. That is, there is little circulation through the skin; a small quantity of blood only is in the cutaneous area, and, consequently, little heat is lost. Not only that, but there is a corresponding increase in the bulk of blood in the internal parts—the heat-forming area; that is, there is, as far as is practicable, a diminution of heat-loss, and an increase of heat-production. On the

other hand, in tropical climes, there is high vascularity of the cutaneous surface, a large bulk of blood in the heat-losing area, and a correspondingly small bulk of blood in the internal or heat-producing zone. Furthermore, as well as a large bulk of blood in the cutaneous vessels, there is the action of the sudoriparous glands with the cooling effects of evaporation. The amount of heat rendered latent, when water assumes a gaseous form, is very large indeed, and the cooling effects of perspiration, sensible or insensible, are very pronounced. When much heat is evolved by muscular exertion, or the body is surrounded by a high temperature, free perspiration comes on; and, in the one case, dissipates the surplus heat produced, while, in the other, it maintains the normal temperature of the body at a surrounding heat which would soon cook a corpse.

In fever, there is a disturbance of the balance normally existing betwixt the heat-forming and the heat-losing areas. This disturbance may arise in several ways. There may be an increased heat-production without corresponding heat-loss, or there may be merely diminished heat-loss. The first definite idea about fever was that of Cullen, and he attributed it to spasm of the cutaneous vessels and lessened heat-loss. This view of Cullen's has more recently received the support of Traube and of Senator. That there is diminished giving off of heat in febrile conditions, with a dry skin, is more than probable. The view of Leyden, as to the production of an increased temperature, is this—there is an increased heat-loss in fever, but there is also such an increased heat-production that there is a rise in the body temperature. Leyden has made further observations; namely, that in increasing fever there is no evaporation of water, while the defervescence of apyrexia is accompanied by well-marked perspiration and exhalation of water; when this last is present, there is a rapid heat-loss and a fall of temperature till the normal is quickly attained. Senator also says, "The greater part of the waste of heat depends in pyrexia, as in health, upon conduction and radiation; but, in the critical defervescence, upon evaporation."

From this it would appear that there may exist a highly vascular condition of the cutaneous or heat-losing area, without any corresponding activity of the sudoriparous glands; in fact, according to Leyden, with entire loss of the insensible perspiration which normally exists. The loss of this heat-losing agent will account for the diminished dispersion of heat with a dry, burning skin, even though there be a large bulk of blood in the cutaneous area. It is, then, a matter of much importance to observe, along with the indications of the thermometer, whether the skin of the patient be moist or dry. An equal rise of temperature with a moist skin, indicates a greater increase of heat-production than the same rise with a dry skin.

There is no necessary incompatibility betwixt a pyretic condition and a moist skin. In rheumatic fever, there is notoriously a high temperature, with a skin bedewed with perspiration. In many pyretic conditions, and in puerperal conditions with accumulations of pus in the areolar tissue of the pelvis, there is usually a moist skin along with a fever temperature.

What, then, are the practical indications furnished to us by these variations in pyretic states? For it is obvious that these different states point to different remedial measures for their relief. What the different apyretic measures are, and what are the indications for the use of each, will now engage our attention.

The measures which lower temperature are various. Our immediate forefathers were attached to venesection; and, recently, Bouchut has shown that venesection will lower the temperature of the body two or three degrees. Frese has found, however, that shortly it rises again; and it would appear that the effect upon the body-heat produced by bleeding should be maintained afterwards by those agents which depress the circulation, and at the same time act upon the cutaneous vessels, of which antimony and aconite are types. Such a line of practice is clearly indicated where the febrile condition embraces a bounding pulse, a strongly acting heart, and a dry skin; such conditions, in fact, as obtain in simple inflammatory fever, whether connected with any local inflammation or not. Now-a-days, no one would think of such

practice in those febrile conditions mentioned above as being accompanied by a moist skin. It is in pyretic states with a dry burning skin, that those apyretic agents which induce perspiration are indicated. Here we want to restore the cooling effects of evaporation; and, for this end, we resort to a class of agents which have recently received the term of depressants of the circulation, and which possess the double action of lowering the activity of the heart, and dilating the cutaneous vessels. By this double action, they produce a decided impression upon the production of heat. In depressing the action of the heart, they depress the circulation, and so lower the rate of chemical interchanges; while, at the same time, they increase the bulk of blood in the cutaneous or heat-losing area, and so tend to dissipate the body-heat; while they further tend to throw the sudoriparous glands into action, and to secure the cooling effects of the evaporation of water. It would appear that, in some febrile conditions, there may be a highly vascular condition of the skin without secretion in the sweat-glands, just as in the early stages of bronchitis there are high vascularity and tumidity of the bronchial lining membrane with arrested secretion. In both cases, the administration of vascular depressants induces a less turgid vascular condition, with a resumption of secretion. Of old, this end was secured by the administration of antimony in full doses, and, in the case of the dry burning skin, by the combination of antimony with opium; indeed, Hufeland regarded tartar emetic and opium, with bleeding, as the basis of all therapeutics. More recently, the use of aconite has been upon the increase; and the observations of Störck in 1763, have been corroborated by those of Fleming and Ringer, until the use of aconite in pyretic conditions may fairly be regarded as the treatment of the future conditions of simple pyrexia. In chloral hydrate, we possess an agent which combines the properties and action secured by the union of opium and antimony. Hydrate of chloral not only affects the heart and cutaneous vessels, but it exercises no slight effect upon the nervous centres; consequently, it is highly serviceable where a pyretic condition is united to nervous excitability, and the nervous system, as well as the vascular system, needs to be calmed.

In many instances, the condition of pyrexia, associated with a dry burning skin, may be successfully alleviated by the use of the warm bath, which will often restore the arrested perspiration. There is no more efficient and yet convenient means of so acting upon the skin, than the bath proposed by the late Sir James Simpson. From its adaptability to the exigencies of the poor, it deserves description. It consists of from six to eight soda-water bottles filled with boiling water, and tightly corked; of as many woollen stockings, wrung out of hot water, each one being drawn over a soda-water bottle; and the bottles so covered being packed around the patient in bed. The moist stockings modify the heat, and convert it from dry to damp heat; so that, betwixt the heat and the moisture, the skin is thrown into action, and in from twenty minutes to half an hour free perspiration is induced, and with it increased loss of heat, and a reduction of the temperature of the body.

Such are the measures which are indicated when the pyretic condition is associated with a dry burning skin, and arrested action of the sudoriparous glands. They are not, however, the measures to be adopted when the skin is moist, while the temperature is abnormally high. Here there is already in action a decidedly pronounced heat-loss, including the effect of aqueous evaporation; and, consequently, the measures to be employed are rather those which strike directly at heat-production than those which increase heat-loss. Such agents we possess in cold, in quinia, and in digitalis. For careful and thorough investigation of the action of these agents, we are chiefly indebted to the Germans. As to the effect of cold in dispersing heat, whether given internally in the form of ice and ice fluids, or applied outwardly to the external surface, there is no question; its effect is direct and unmistakable. But, while cold is a direct disperser of accumulated heat, it does not check the production of heat. This last, it is asserted, quinia and digitalis do. Liebermeister found out, from a very large number of observations, that quinia distinctly lowered the temperature in typhoid patients. Kerner and Jürgensen found that quinia arrests the rise of temperature which ordinarily follows exercise. Wun-

derlich found digitalis to affect the temperature of typhoid patients. Ackermann has explained the apyretic action of quinia and digitalis as lying in their effect upon the vaso-motor centre, and the increase of blood-pressure, which follow their administration. He states that, as the blood-pressure rose, the temperature fell. That there is a certain antagonism betwixt the amount of the blood-pressure and the temperature seems borne out by one's general experience, and that digitalis may so act as an apyretic remedy is probable enough; but that such is the explanation of the action of quinia is very questionable. The observations of Briquet and Eulenburg agree in showing that quinia produces decided lowering of the blood-pressure, instead of the rise supposed by Ackermann to be the result of its administration. An elaborate series of observations and experiments by Binz leads to the following conclusions as to the apyretic action of quinia. There is some effect produced upon the white blood-corpuscles, but Wood is of opinion that this exercises but little influence; though he says, "from the experiments of Binz himself upon the lower organisms, it would appear that quinia acts upon all animal germinal matter; and it is probable that the protoplasm of the nervous system, being more specialized than that of the white corpuscles, would be more susceptible of the influence of the alkaloid." That there is some effect exercised by quinia upon the nerve-centres which affect temperature is more than probable; though it is impossible to say what that influence exactly is. The work of Binz, however, leads one to suppose that the apyretic action of quinia lies to some extent in its checking the ozonizing power of the blood. That quinia does possess an apyretic action is unquestionable.

When, then, we meet with cases of febrile temperature with a moist skin and distinct perspiration, the indications for treatment point to the remedies just mentioned, as preferable to the depressant and diaphoretic antipyretics. The effects of a few grains of quinia every three or four hours, especially if given along with mineral acids—the utility of which in febrile conditions is well known—is often very marked. Under such circumstances, too, alcohol is often very useful; and by means of quinia, supplemented by repeated doses of alcohol, many cases ultimately recover which, under other circumstances, would in all probability have sunk. That they would have sunk under the use of depressant diaphoretics, is more than probable.

It is in the discrimination of the nature of each case, and the indications for treatment furnished by the observations made, that registration of temperature is so valuable in practice. But it is perfectly obvious from the foregoing, that the mere noting and registering of the patients' temperature will not give practically useful results, and that the application of the trained intelligence of the medical attendant to the clear comprehension of the how and why of the febrile state, is necessary to the selection of the appropriate remedy for the reduction of the pyretic condition.

In addition to the diagnostic aid furnished by the clinical thermometer, much information is afforded by it, when taken along with other information given by noting the condition of the skin when applying the thermometer, as to the cause of the rise of temperature; and, with that information, indications also for the proper selection of the apyretic measure suited exactly to the exigencies of each case.—*Brit. Med. Journ.*, March 27, 1875.

Disturbances of the Nervous System in Diabetes.

Prof. BOUCHARDAT, who is about to publish a work on diabetes, summing up his vast experience in relation to this disease, has inserted a short chapter from it, bearing the above heading, in the *Bulletin de Thérapeutique* for February 28th.

The various disturbances of the nervous system in glycosuria are, he observes, of great frequency. *Partial anæsthesia* he believes to be of much more common occurrence than might be supposed from the actual results of his experience, inasmuch that he has not always paid suitable attention to this point, and many cases must have escaped his notice. He has observed it in the lower

extremities, the thorax, and the face. *Cutaneous hyperæsthesia* is more easily detected, but is more rare, and he has only met with it exceptionally. *Cramps* are one of the most frequent symptoms of intense glycosuria having induced a general impoverishment of the economy. These cramps, which cause so much suffering to the patient and occur generally at night, especially attack the lower extremities. They are the companions of glycosuric anæmia, and generally yield to regimen and a well-ordered plan. *Insomnia* is necessarily one of the most constant inconveniences of diabetes, owing to the frequent micturition which becomes imperative. It is only towards the morning the patient can get a little sleep; doubtless because then, owing to the time that has elapsed since the last meal and since the drinking in the evening, the super-secretion of urine is at its minimum. Regimen, by considerably reducing the quantity of this, suppresses a cause of insomnia. In order to secure good sleep we must insist on exercise, and fix an interval of four or five hours between the last meal and the time of going to bed. *Pains*: Many patients complain of pain in the region of the kidneys or the dorsal region, or (more rarely) in the lower extremities and the articulations. They also may suffer from numbness of the lower limbs, or from coldness or a sense of burning pain in the extremities. *Paralyses* must be regarded, not as symptoms, but as complications of glycosuria. *Defective Memory*: It is remarkable that the modifications which the memory undergoes in old diabetics have not been insisted upon in the monographs. It is a symptom that is seldomest wanting in diabetic patients who have reached the turn of life; for if the memory enfeebles with years in the normal state as 1, it does so in diabetes as 10, in a word, all the blows which strike the economy by the progress of age are far more forcible in diabetes than in any other disease. But what is remarkable is the rapidity with which all these unfavourable phenomena of old age disappear under the influence of a properly conducted hygienic regimen; most of these patients become visibly younger. *Aptitude for Work*: Diabetics become, with the progress of their disease, indolent, fearing intellectual labour, and less and less fit (with some exceptions) for cerebral exertion. But all intellectual activity returns quickly under suitable treatment. With many of these patients their listlessness is quite astonishing, notwithstanding whatever may be done to stimulate in them the natural feeling of conservation. An irresistible tendency to sleep after meals often persists. *Irascibility*: Diabetes often predisposes to this, and it requires both an excellent disposition and a good education to break through this inclination. The patient is moving in a vicious circle, for a paroxysm of rage causes the appearance or increases the quantity of sugar in the urine. This disposition to passion is especially met with among men. *Melancholia and Hypochondriasis*: Persons who have long suffered from diabetes, especially men, are cast down, discouraged, and melancholy. This is hypochondriasis in its slightest degree. Three causes contribute to this—the habit of indolence which glycosuria often brings on; premature impotence, which preys upon the patient's mind (and which, indeed, M. Bouchardat finds, is not so easily recovered from as some others of the conditions of diabetes); and the reputed incurability of this disease. So great is the terror of this last, that the friends have often asked M. Bouchardat to conceal the name of the disease from the patient. This he has always resolutely refused to do, for a cure of the disease can only be obtained by the voluntary co-operation of the patient. Then the effects of treatment are so distinct, rapid, and easy of proof; and what a pleasure to find one's self growing young again. —*Med. Times and Gaz.*, March 20, 1875.

On Masked Epilepsy.

In his account of a criminal case, in which masked epilepsy was alleged in defence, Dr. Auzory (*Annales Médico-Psychologiques*, Nov. 1874) remarks that the doctrine of this disease involves some of the most delicate and difficult questions of legal medicine. It is, according to some, a neurosis which is not to be recognized by any external symptoms, or by any forewarning, but which is manifested by sudden and violent acts, repeated at varying intervals, and yet

demanding entire irresponsibility. But, he says, although it is not declared by the ordinary epileptic attack, or by unmistakable external symptoms, it has, nevertheless, characteristic marks by which it may be known. Tronseau tells us that the epileptic act in such patients is even more sudden than the convulsive seizure, and is evidenced by some extraordinary or outrageous conduct, which one sees cannot be voluntary. M. Falret says that, in these epileptics, slight convulsive movements may be noticed by a medical man, which might escape ordinary observation. And further, he quotes M. Morel, who lays down the following as characteristics of the disease: Periodical exaltation, followed by prostration and stupor; exaltation of sensibility; acts having the character of instantaneous and irresistible impulse; tendency to suicide and homicide; delusions and cerebral excitement; exaggerated ideas of strength, riches, and intellect; mixture of erotic and religious sentiments; frightful hallucinations, dreams, and nightmares; gradual weakening of intellect, loss of memory of what was done in the paroxysm; delusions recurring in the same way on each occasion. Dr. Auzony tests the alleged epileptic by these characteristics, and decides that they were not to be found in him. The man was accused of indecent conduct with boys, and this extended over a period of fifteen years; and so long a time proves, he says, conclusively, that it was not masked epilepsy. Another man was accused of acts of immorality with little girls, and he tests him in the same way, and decides against the theory of his being an epileptic. He quotes M. Billod, who says that the only sure test of an epileptic attack is the want of recollection of what was done during it; and that, in the absence of this, a prudent reserve must be maintained. That masked epilepsy does render patients irresponsible must, he says, be admitted by all; and therefore it is the more necessary that the characters and principal symptoms should be laid down in a lucid and unmistakable manner.—*London Med. Record*, March 10, 1875.

On the Treatment of Epilepsy by Bromide of Potassium.

In the *Archiv für Psychiatrie*, vol. v. no. I, is a paper by Dr. OTTO on potassic bromide as a remedy against epilepsy. He employed it in thirty-one undoubted epileptics, and his conclusion, after having well studied the experience of others and the very extensive literature already existing on the subject, is that "it lowers the excitability of the central ganglia and of the peripheral nerves, and by this means assuages immediately the epileptic attacks." The results are due entirely to the bromine compound. Sodid bromide acted just as the potassic salt, but potassic chloride had absolutely no action. As to the dose, the smallest for adults, to have any pretensions to result, must be 120 grains, the largest 180 grains; in some cases 225 have been borne, but when it reaches 180 grains daily the greatest precaution is necessary. It is best to begin with full doses at once, and not rise to them gradually. In more than half the cases there was complete remission of the fits, in a small number lessening of them, and not in a single instance was the remedy without some effect, whilst the psychic state was equally improved.

Of the other remedies for epilepsy, atropia has been the most vaunted, and that it has an influence on the fits cannot be denied, but the influence is never more than temporary. After the remedy has been employed for months, the fits still continued under its use, even increased in number and severity. Tincture of digitalis is attended with small advantages; in many cases no good results followed, in some others the attacks were diminished, but in nothing near the proportion of those treated with potassic bromide; when the digitalis was employed subcutaneously, the attacks increased to two or three times their usual number. Nitrate of silver was useless in chronic cases. Nitrite of amyl, theoretically recommended, cannot approach potassic bromide, and is very uncertain in its action even when applied as soon as an aura gives notice of an approaching fit. Some one has maintained that good results from treatment were only to be found in idiopathic epilepsy where the disease was free from alteration of tissue or pathological products. Otto's cases show, however, that such an opinion is incorrect; for, since Meynert called attention to the

changes in the cornu Ammonis in the brains of epileptics, every epileptic subject in the Pforzheim Asylum has been examined in this particular, with the result that in nearly all cases one or both of the cornua Ammonis were found to be affected, and yet in them the bromide salt had been the most effectual. Under excessive doses, in some persons psychic and motor paralytic symptoms may follow, but there are symptoms of intoxication and indications for lessening of the dose, and these brain-symptoms afford just as good a guide as does the pulse in digitalis. So little fear has Dr. Otto of any permanent psychic lesion from large doses of potassic bromide, that he affirms that he has often found the intellect improve and has been able to restore to society epileptics who seemed demented. In addition to the often noticed eruption of acne in those taking this medicine, there appeared at times circular inflammations of the size of a nut, of a furunculoid character and tardy course. Occasionally (12 per cent. of Otto's cases) an extensive ulceration of the skin appeared, superficial, situated in the leg or arm, and lasting whilst the medicine was continued. In other cases there were redness of the throat, burning at the stomach, diarrhœa, and pains in the limbs, but all these were transitory, and disappeared when the dose was diminished, or when more care was taken in the mode of administration. The remedy should always be given well diluted with water.—*London Med. Record*, Feb. 24, 1875.

On Rheumatismal Insanity.

In a case of rheumatismal insanity reported in the *Bulletin Médical de la Suisse Romande* for Dec. 1874, the patient was suffering from acute articular rheumatism with endocarditis, and presented all the characteristics of rheumatismal madness; combination and alterations of various forms of mental alienation, mania, melancholia, dementia, with a marked predominance of notions of persecution and hallucinations of sight and hearing of a generally distressing character. For several days there was marked stammering, a symptom which has before been noted in some cases of this kind. M. DEBORX brings into notice the commonness of melancholic mania in rheumatismal insanity; in the great majority of cases, coinciding with cardiac disease. On the other hand, it is interesting to note how amongst lunatics suffering from the persecution-delirium, generally with persistent hallucination, we find individuals labouring under heart-disease, especially amongst old men.—*London Med. Record*, March 11, 1875.

On Impulsive Insanity.

In the *Archives Générales de Médecine*, January, 1875, there is a report by Drs. BLANCHE, BERGERON, and LASEGUE of a homicide committed by a young man, Henri Thouviot, the victim being a girl aged twenty, an assistant at a restaurant, whom he had never seen previously to the moment when he stabbed her. Questioned why he did it, he replied that it was to satisfy an idea which he had had for a long time, and said further that he had passed the preceding night with a girl whom he had intended to kill, but had desisted, chiefly because he feared that he would be suspected of murdering her for the sake of robbery. The reporters review the various kinds of homicidal insanity, which they described under four heads. 1. Homicide through delusion, *e. g.*, that a system of persecution is being carried on. Thouviot had had an idea that his mother was responsible for his misfortunes and want of character, and had conceived some idea of murdering her, but this form was not that under which he stabbed the girl at the restaurant. 2. A weak-minded or imbecile individual may commit a murder after some slight quarrel or fancied provocation. Thouviot cannot be brought under this category. 3. An intermittent or transitory mania is sometimes found, depending on alcoholic poisoning, on epilepsy, or on a masked epilepsy. Thouviot exhibited no affection of the muscles or of speech; and although the pupils were unequal, and the sight of the left eye impaired, it was thought that there was no brain-lesion. He had had some

attacks of vertigo, but there seemed no reason for thinking him an epileptic. 4. There is, however, another class of insane homicides impelled to commit murder by an irresistible though transitory power, without other physical or psychical lesion at the time, without subsequent defect of intellect. Such attacks may be more or less intense and more or less frequent. They may not recur for years; they may be instantaneous, passing quickly away, or may continue for days or weeks. There is no loss of consciousness or of recollection, as in epilepsy. Thouviot, according to the reporters, belonged to this category. His demeanor was different from that of ordinary criminals; he discussed the crime as if it was another's. He was vain of the name of "assassin," puerile in his ideas and wishes, without any power of reflection. He was transferred to Bicêtre.—*London Med. Record*, March 11, 1875.

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On a Case of Multiple Paralyzes of Cranial Nerves.

Dr. B. FRÄNKEL, of the Augusta Hospital, Berlin, relates the following case in the *Berliner Klinische Wochenschrift*, January 18, 1875. The patient, a clerk, twenty years of age, had suffered from a discharge from his right nostril for several years, which he had observed was not so pervious as the left. In February last he experienced acute pains on the right side of the forehead, accompanied with attacks of a fainting character. About the end of April a tumour was observed at the right angle of the maxilla, and the patient, who had been slightly deaf from childhood, had entirely lost the sense of hearing on the right side. In this state he was admitted into the hospital, and was taken by Dr. Fränkel to the sitting of the Berlin Medical Society, for inspection by the members.

On examining the mouth, it was observed that the right side of the tongue was atrophied and paralyzed. The apex of the tongue was protruded towards the right side. If the patient made grimaces, it was seen that the muscles supplied by the facial nerve possessed their normal innervation. On looking further into the cavity of the mouth, it was seen that the uvula and soft palate were drawn to the left of the mesial line. This deviation was more distinct when the patient pronounced *a*. By a laryngoscopic examination the epiglottis was seen to be inclined backwards, with its right edge lower than the left. The right side of the larynx was covered with mucus; the right vocal cord, relaxed and curved, had the same appearance as is presented in a corpse. The right arytenoid cartilage was inclined forward, and in this state the parts remained immovable during both inspiration and expiration, and in phonation, so that the left vocal cord was seen to project over that of the right side during these acts. Here there was paralysis of the lingual, palatal, and laryngeal muscles. The movements of the hyoid bone and larynx in swallowing were normal. The position of the hyoid bone was horizontal. The upper angle of the thyroid cartilage was rather deeply turned to the left, but this may have been owing to a slight curve in the neck, which the patient had from infancy. The movements of the head were equally performed. The sensibility of the skin was equal on both sides, except in a circumscribed space of the right auditory passage. Reflex coughing could be excited in the left but not in the right meatus. The surface was sensitive at the tip of the tongue, the lips, and inside of the cheeks on the right side, but gradually diminished towards the root of the tongue, and was entirely wanting in the fauces on the right side. In laryngoscopic examination a sound could be passed down to the usually sensitive laryngeal surface, on the right side, without exciting reflex action. Mastication and deglutition were greatly impeded by the inability to control the position of the morsel on the right side, so that to avoid choking he was obliged always to keep the food to the left side of the mouth. Taste was also impaired in the parts insensitive to touch.

Dr. Fränkel considers that this case corroborates the ageusia, described by Hirschberg (*Berliner Klinische Wochenschrift*, 1868, No. 48), from paralysis of the trigeminus, and supplies a fresh proof that taste is the result of the distribution of the fifth pair and chorda tympani to the anterior part of the tongue, and of the glosso-pharyngeal nerve to its posterior portion.

With reference to the senses, hearing, it has already been stated, was impaired; visual power was perfect; smell was slightly feeble on the right side, possibly from the narrowness of the nostril preventing free inspiration. Dr. Fränkel thus summarizes the phenomena related: total paralysis of the right hypoglossus, of the right glosso-pharyngeal, and of the right vagus, as far as concerns the laryngeal superior and most probably the auricularis. As regards other branches of the vagus, there was no functional disorder of the lungs or of the abdominal viscera. The pulse was feeble, and averaged from 110 to 120 in the minute.

The interest of this case is further enhanced by the observation that there were indications of paralysis of the superior ganglion of the sympathetic. The left pupil had become smaller than the right. There was no strabismus, but a distinct exophthalmia of the right side. The temperature of the right external auditory passage was slightly above that of the left. The surface of the tympanum was depressed and injected. The mouth was constantly filled with saliva.

The cause of these multiple paralyses was doubtless the tumour already mentioned as existing under the angle of the superior maxilla, under and in front of the sterno-cleido mastoid muscle. It was of a firm consistence, elastic and movable, of about the size of an apple; it extended into the pharynx, which it pressed forward, occupying also the nasal fossa. The point of a catheter passed into the nostril was turned upwards and inwards to the left ere it reached the back of the cavity. This tumour bled on the slightest touch, and had a red puffy mucous appearance.—*Lond. Med. Record*, March 10, 1875.

Chorea after Diphtheria.

Dr. BAUMBLATT describes in the *Aerztliches Intelligenz-Blatt*, No. 25, 1874, the case of Maria D., aged 21, who after a mild attack of diphtheria, had choreic paroxysms which set in suddenly, lasted three or four minutes, without loss of consciousness, and ended as suddenly as they had begun. Indications of a high degree of chlorosis gradually appeared; the menses became scanty and rare, and she was extremely anæmic. She was treated by iron and morphia, also by an energetic use of the cold-water system. At the end of two months she was sent to the iron springs at Boklet, and returned in six months much improved in her general health. The chorea, however, continued, and did not disappear until she had made a second visit to Boklet in the following year; since which, four years ago, there has been no return of the malady.—*Brit. Med. Journ.*, Feb. 27, 1875.

Treatment of Biliary Calculi.

At a late meeting of the Société de Biologie, Dr. LABORDE gave the results of his researches on "Biliary Calculi; why they are painful, and how they should be treated." The secreting bile-passages, he said, were contractile, and became affected with spasms under the influence of direct or indirect excitement. Their contractility was like that of the smooth muscular fibres of organic life, the existence of which in the walls of the bile-channels had been shown by histological researches and physiological experimentation. The mucous membrane of the passages was possessed of great sensitiveness, which manifested itself under the influence of exciting causes, both by intense pain and by reflex action, as shown in the spasm of the biliary canals. These phenomena were especially determined by the presence of, and contact with foreign bodies (biliary calculi), the spontaneous migration of which was rendered difficult by these circumstances, and, when effected, would occur only after some time, with this particularity, that the foreign bodies might recede even into the biliary vesicle. Morphia and hydrate of chloral administered simultaneously formed the best mode of treatment. They exerted both an anæsthetic and paralyzing influence, with the effect of producing cessation of the spasmodic state, distension of the passages, and accumulation of the biliary fluid,

which acted on the foreign body by a kind of *vis à tergo*, and forced it down the intestines.—*Lancet*, Jan, 2, 1875.

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Treatment of Sudden Intestinal Occlusion by Opium.

M. ANTOINE TARIOTE, in *Thèses de Paris*, No. 426, 1874, relates two cases which occurred in M. Moutard-Martin's practice, in which appearances of intestinal occlusion that had shown themselves suddenly quickly disappeared under the influence of opium given in large doses. The following draught was given: Thebaic extract, ten to fifteen centigrammes; white emulsion, 125 grammes; syrup, thirty grammes; a teaspoonful to be taken every hour until symptoms of narcotism appeared.

M. Moutard-Martin has given as much as thirty centigrammes of extract of opium in one day.

When action of the bowels takes place, the medicine is discontinued. M. Tariote concludes that intestinal occlusions may be divided into two very distinct categories: 1. Intestinal occlusions of slow origin, caused either by simple accumulation of fecal matters, or by paralysis of the intestine, or diminution of its size in consequence of the presence of foreign bodies, stricture, and compression; 2. Intestinal occlusions which make their appearance very abruptly and rapidly, arising from true internal strangulation, invagination, retroversion or twisting of the intestine. In gradual intestinal occlusion, opium can only be used to overcome the pain or sufferings of the moribund patient. In sudden intestinal occlusion, if there be no well-confirmed internal strangulation, opium employed from the commencement, concurrently with applications of ice to the abdomen, or blood-lettings, calms the local irritation and the resultant spasm. It also quiets the accidents arising from the general irritation, anxiety, small pulse, chilliness, etc. This treatment may by itself re-establish the circulation of the gases. The re-establishment of the circulation may be advantageously hastened by the administration of a purgative.—*Lond. Med. Record*, March 31, 1875.

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Spontaneous Rupture of the Umbilicus as a Consequence of Purulent Peritonitis.

Dr. BAIZEAU reports (*Archives Générales de Médecine*, Feb. 1875) that twice in the course of years he has attended children who, after attacks of peritonitis, have had purulent effusion which has discharged itself at the umbilicus with resulting cure. Abscesses of the liver, of the iliac fossa, etc., sometimes perforate in the same way with cure; but he considers it rare for the same result to follow in purulent peritonitis, death being the common sequel.

Rilliet and Barthez quote two cases in their work on the *Diseases of Children*, but one of these, he thinks, should be considered as a collection external to the peritoneum. The other, reported by Dr. Aldis in the *Edinburgh Medical and Surgical Journal*, 1847, is briefly as follows: A little girl, seven years old, had acute peritonitis, followed by purulent effusion. Dr. Aldis saw her eleven weeks after the commencement of the acute attack; fluctuation was only made out a month later, and the pus was discharged spontaneously by the umbilicus on June 7, 1846; it continued to run till the 12th, and was quite healed and the child well on Sept. 30.

Another case was published by Bernhardt in the *Medizinische Zeitung*, March, 1842. The child, five years old, was attacked with peritonitis on June 6, 1841. Active antiphlogistic treatment was used, but effusion took place; on the 22d the umbilicus was prominent and red, and on the 25th it ruptured and continued to discharge for some time, but with an eventual cure.

Féréol has collected some similar cases in puerperal peritonitis in adults, but Baizeau thinks it is often difficult in these cases to make sure that the pus is actually in the peritoneum. He gives one case where a trocar was first used, and the matter gathered again and discharged itself by the umbilicus; a fistula remained for six months.

In another case the pus was discharged, both by umbilicus and vagina, and the patient recovered.

Dr. Baizeau quotes at length the two cases he has met with, which are briefly as follows:—

1. A boy, twelve years old, had general peritonitis in February, 1868, with evident effusion, complicated by pleuro-pneumonia on the right side. This was successfully treated, and followed by a large parotid abscess. On March 20, rather more than a month from the commencement of the illness, the abdominal symptoms, which had been masked by the severer chest-complication, again became troublesome, and on April 2 several litres of greenish grumous inodorous pus were spontaneously discharged from the umbilicus. A drainage-tube was put in, passing into the pelvis, and warm-water injections were used. Then a pleuritic effusion occurred, and was punctured with the trocar; and injections, first simple then iodized, were used here also. The child improved till April 26, when his abdominal pus became very fetid, and rigors and fever came on. Free iodine injections¹ checked this. They were continued twice daily till May 7, and after this once daily. Meantime the pleural fistula had closed, but was reopened on June 21, as it was prominent, and fluctuation could be detected. A tube was put in and iodine injections used. Eventually in July the patient was allowed to get up and walk about, but the tubes were kept in, the one in the pleura till October 1, and the one in the abdomen till December 20. The child regained perfect health, and suffered no inconvenience from intestinal adhesions. Dr. Baizeau considers that the iodine injections not only prevent putrid changes, but modify the peritoneal secretion. He considers the case one of purulent diathesis rather than infection from the first pus in the peritoneum, and in support of this opinion quotes two other cases of what he considers to be purulent diathesis.

2. The case of a girl, ten years old, is similar to that of the boy, as far as the peritoneal lesion is concerned, the pus discharging again spontaneously at the umbilicus, with immediate relief and improvement of the patient. Dr. Baizeau saw her in consultation and dilated the orifice, and introduced a tube, through which warm-water injections were made night and morning; in a little more than a month the tube was removed, and in six weeks she was able to go to Paris.

Baizeau considers that, without nature's own efforts to get rid of the pus, both children must have died, as most cases do before rupture occurs; therefore he advocates assisting nature by plunging in the trocar at the same place. All cases of purulent peritonitis will not admit of this treatment, on account of the intestinal adhesions forming pouches, which draining and injection will not reach; but generally in purulent cases, as in purulent pleurisy, the adhesions are soft and scanty.

Infancy and parturition are conditions which favour this natural cure, as the umbilicus in both is soft and yielding. It is, however, possible that a similar cure might occur in other people.—*Lond. Med. Record*, March 31, 1875.

Intestinal Obstruction.

MR. MAHOMED recently exhibited to the Pathological Society of London (*Brit. Med. Journ.*, March 20, 1875) a case of intestinal obstruction which appeared to be worthy of record from the extreme rarity of its cause. T. C., aged 18, was admitted into St. Mary's Hospital under the care of Dr. Sieveking, on March 5, 1875, with well-marked symptoms of ileus. Eight days before his death, he ate a meal of badly cooked potatoes, which was followed by vomiting and pain in the abdomen; the pain was not extremely severe, nor was it well localized. After six days' continuous vomiting, the matter brought up was distinctly fecal. His abdomen became tender and tympanitic. He had no action of the bowels, nor did he pass blood or bloody mucus up to the

¹ The injecting lotion was composed as follows: Tincturæ iodi, ℥vjss; potassii iodidi, gr. xv; aquæ ad ℥xij. The quantity of iodine was doubled after a time.

time of his death. No tumour could be felt in the abdomen while he was in the hospital. There was no localized, and but little general peritonitis. He did not lie on his back, nor were his legs flexed. On the day of his death, coils of the distended small intestine were distinctly perceptible both to sight and touch, through the abdominal parietes. His temperature was never raised, but was usually below normal, falling as low as 97° . His pulse was not small, rapid, and contracted, like that of peritonitis; although rather quiet, it was fairly full and soft. At the time of his illness, he was suffering from a hard chancre, which he had had for several weeks. He had condylomata about the anus, indurated glands in the groin, and livid macæ on the skin. He died from exhaustion on the eighth day of his illness. He is said never to have suffered in a similar manner before, or to have had any trouble with his bowels. At the necropsy, the small intestines were found enormously distended with flatus and fluid fecal matter. A fibrous band was seen extending from the middle of the abdominal wall, midway between the pubes and umbilicus, backwards towards the right iliac fossa, carrying out with it, from the wall of the abdomen, a triangular fold of peritoneum. On tracing this cord toward its visceral termination, it was found to pass amidst the distended coils of intestine to the lower part of the ileum, where it had formed a noose, encircling a loop of ileum thirty-three inches in length; it passed one and a half times around the gut at the point of constriction, and was then found to extend into the mesentery of the ileum, about three feet from the ileo-cæcal valve. On tracing the fibrous cord between the peritoneal layers of the mesentery, it was discovered to terminate in a large branch, apparently the ileo-colic of the superior mesenteric artery. On following out the fibrous cord that passed across the abdominal cavity towards its parietal termination, it was found, at the apex of the triangular fold of peritoneum carried out from the abdominal wall, to divide into two branches: one ascended to the umbilicus, accompanying the hypogastric artery of the right side; the other branch descended towards the bladder, and was terminated in the left superior vesical artery. It was thus proved to have been an abnormal hypogastric artery in the fœtus, taking origin from a branch of the superior mesenteric, and sending a branch to the upper part of the bladder, to correspond with the usual distribution of the hypogastric and subvesical vessels. An attempt to inject the obliterated vessel from the branch of the superior mesenteric, succeeded to a certain extent. That part of the vessel which ran in the mesentery, but beyond the bowel, where it appeared as a fibrous cord hanging loosely across the abdominal cavity, was impervious. The cord was surrounded by a sheath of peritoneum. The intestines were obstructed at the point where the cord reached the mesentery. Above this point they were greatly distended, and below it they were contracted and pale. There was no strangulation of the gut at the point of obstruction, nor was there any appearance of recent peritonitis, with the exception of a little organized lymph at the point of constriction, both on the gut and on the mesentery corresponding to the lower end of the loop of intestine. The peritoneal surface of the distended gut was of a dark, dull colour, and the peritoneum was much injected, but there was no effusion of recent lymph. The mucous coat was deeply congested. Peyer's patches were much congested, while the solitary glands were enlarged and very distinctly visible. Immediately below the point of constriction was a small diverticulum, about one and a half inches in length, possibly the remains of the vitelline duct. The lungs were much compressed; the upper lobe of the right was congested and carnified. The pericardium was firmly adherent to the whole of the surface of the heart. There were signs of old peritonitis on the liver; patches of puckered, organized lymph on its capsule.

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On the Treatment of Tapeworm.

At a meeting of the Berlin Medical Society, held on October 28, 1874, Herr Pincus remarked that many medical men consider a preparatory treatment necessary before administering anthelmintics. This preparation consists of oils and low diet for some days beforehand, or of two or three days physicking.

which irritates the worms. The consequence, he states, is that when the anthelmintic is given, portions only of the body, and not the head, are expelled. The remedies may be divided into two classes, namely, those which paralyze the movements of the proglottides, koussou, panna [the rhizome of *Lastrea* (*Aspidium*) *athamanticum*, much esteemed by the Zulu Caffres, and somewhat resembling our male-fern], kameela; and those which act upon the organs of adhesion, as the bark of pomegranate-root and male-fern. Whichever be employed, the best result is obtained by giving a full dose without any preparatory medication. Again, it has been advised, when the worm is found to protrude from the anus, to do nothing except let the patient sit over warm water; this may be done for hours, and the only consequence is, that after from eight to ten feet of worm have come away, there is no further progress; probably because the head is not paralyzed, and remains adherent, whilst the proglottides come away. In such cases Dr. Pincus gives a narcotic clyster, if the movements of the worm be lively; and then, in less than an hour, even when the tapeworm is broken, he has found the head to come away. The older remedies, such as pomegranate-root bark, are preferable, because they do not much derange the patient's health. Professor Henoch remarked that narcotic clysters, even with chloroform, had been recommended some time since. He asked if Dr. Pincus had himself experimented upon the worms. Dr. Pincus said that he meant substances which narcotized the worms themselves, particularly pomegranate-root bark. He had made experiments upon the proglottides passed by patients; the movements of these ceased immediately when subjected to koussou, panna, or kameela. He had made no direct experiments on the action of the other remedies in paralyzing the adhesive organs. Professor Liebreich drew attention to the koussine or koussein prepared by Bedal, of Munich, which was not an alkaloid, but contained the resin of koussou. Two grammes of this preparation have the same effect as twenty grammes of koussou [5ss koussine is equal to 3v of koussou]. Herr Paasch had also used pomegranate-root bark, but considered no cure as complete unless the worm came away *sua sponte*. Professor Henoch denied that the passing of proglottides denoted the worms being themselves out of health; the proglottides severed themselves when sexually ripe, in order to pursue their further transigrations. Herr Furstenheim mentioned the thick lozenges prescribed by Rosenthal as very convenient in practice. They contained koussou. Herr Pincus believed that the proglottides become separated, when the fibres which connect them are so softened and worn that the alkaline mucus of the bowel dissolves them.—*London Med. Record*, Jan. 6, 1875, from *Berliner Klinische Wochenschrift*, Nov. 30.

The Pathology of Unilateral Hyperidrosis.

Cases of unilateral sweating are not extremely rare, and they have been observed either as one feature in a group of other symptoms—as in Graves's disease, in some cases of diabetes, and in hemiplegia, or else as an independent phenomenon in perfectly healthy individuals. Their pathology, however, has remained obscure, and it is only in the light of physiological experiments that their origin in some lesion of the vaso-motor sympathetic nerves has been provisionally explained. It is interesting, therefore, to find a case reported by Professor EBSTEIN, of Göttingen, in the January number of *Virchow's Archiv*, in which the autopsy revealed a possible cause for the hyperidrosis in a unilateral alteration of the sympathetic ganglion. The patient was a man of sixty, and was suddenly attacked with hyperidrosis of the left half of the body after a severe paroxysm of angina pectoris. Unilateral sweating afterwards accompanied every paroxysm, but it also occurred at other times if the patient exerted himself much. After his death the cervical sympathetic ganglia were carefully examined by Professor Ebstein and Dr. Fränkel. To the naked eye the ganglia of the two sides of the neck were normal in size and appearance, but on hardening them and making careful sections it was found microscopically that the ganglia on the left side, and particularly the lowest, contained a number of cavities lined with a distinct endothelium and filled with blood-cor-

puseles. The cavities were usually round, sometimes spindle-shaped, or else irregular in form. They lay in the continuity of dilated bloodvessels, forming varicose dilatations of their walls. The ganglion cells in the intervening tissue were distinctly visible, and were deeply pigmented, and some of them were completely filled with dark granules which concealed the nucleus.

The ganglia on the right side showed merely a trace of dilatation of vessels without any varicosity whatever. The ganglion cells, however, were in the same condition as in the left.

Professor Ebstein believes that the varicose condition of the vessels in the ganglia of the left side will help to explain the unilateral sweating which the man had suffered from. He thinks that just as in very vascular tumours of the brain paralyses occur under circumstances which lead to cerebral congestion, and disappear again when the congestion has passed away, so if the amount of blood were increased in the varicose vessels of the cervical ganglia, and compression exerted on the nerve cells, transient paralysis of the vessels supplied by nerves from the ganglia might readily follow. Any impediment to the proper return of venous blood to the heart might thus give rise to hyperidrosis. This theory is all the more plausible because the sheath of connective tissue which surrounds the ganglia sends processes in between the individual nerve-cells, and so forms secondary capsules, which are accompanied by bloodvessels. Thus, the greater the space which the bloodvessels of the septa occupy, the more will the function of the nerves be interfered with.—*Med. Times and Gaz.*, March 27, 1875.

Treatment of Herpes Zoster by Morphia.

Dr. GINÉ records a case of herpes zoster affecting the dorsal region at the level of the seventh vertebra and extending round the left side. In addition to the severe pain of the skin, the patient complained of deep-seated pain, increased on pressure, affecting the knees about half an inch below the eruption. Dr. Giné believed that he had before him a case of neuralgia of the cutaneous nerve of the seventh intercostal space, producing an herpetic eruption in the part corresponding to the extremities of the nerve. He subcutaneously injected a third of a grain of morphia in fifteen drops of water. This was followed by immediate relief to the itching, rapid resolution of the inflammation followed, and in four or five days no remains of the affection were present except desquamatory skin. The author concludes that this case confirms the opinion of Hebra that the zona is an eruption corresponding to the termination of certain cutaneous nerves; that a special form of zona should be distinguished under the name of *zona* or *herpes dorsalis*; or of *eczema nervosa*; that topical applications are almost useless, since the affection has a deeper seat, whilst the function of absorption is interfered with; and lastly, that the subcutaneous injection of morphia should be generally adopted.—*Practitioner*, Feb. 1875, from *La France Médicale*, No. 99, 1874.

Surgery.

On the Use of Sulphuret of Carbon in the External Treatment of Chronic Ulcerations.

In the *Journal de Théraputique* for Jan. 1875, p. 48, Dr. EVARISTE MICHEL relates his trials of sulphuret of carbon in M. Boys de Loury's wards, when Dr. Michel was his house surgeon at Saint-Lazare in 1867 and 1868. The results obtained were most beneficial. Sulphuret of carbon is used like the caustic liquids. In order to obtain the required effect, it is sufficient

to touch the ulcerated tissues with a pledget of lint saturated with the liquid in the same way as with most acids. The frequency of the dressings depends on the degree of chronicity of the ulceration; a very old and inactive ulcer will require moistening every day, whilst less frequent applications, every two or three days, will suffice for a more recent and excitable ulcer. Sulphuret of carbon is not a caustic; and its contact with the mucous membrane does not leave any scar. Neither does it produce any discoloration except the amount resulting from its constant use, which characterizes reparation of the skin. It gives acute but only instantaneous pain; and, whilst the suffering consecutive on a somewhat extensive cauterization with acid nitrate of mercury sometimes lasts for many hours, it is rare that the pain due to the sulphuret of carbon is not entirely dissipated in a few minutes. This pain, which is somewhat intense on the first application, is less so at the second, and diminishes in proportion as the use of the dressing is prolonged, and as the cicatrizing process becomes confirmed. M. Michel has never met with the smallest accident which could be attributed to the absorption of the sulphuret of carbon by impregnation; for although, like the majority of volatile substances, it penetrates deeply, it evaporates quickly. He adds that he has always worked on relatively limited points, and that, for instance, he had never ventured in the treatment of vaginitis to touch the whole of the vaginal mucous membrane.—*London Med. Record*, March 7, 1875.

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On the Use of Calabar Bean in Impairment of Accommodation.

Dr. HUGO MAGNUS (*Klinische Monatsblätter für Augenheilkunde*, August and September, 1874) remarks that the influence which is possessed by solutions of Calabar bean over the action of the ciliary muscles is universally recognized, and the extreme value of this influence in cases where the accommodation is suspended by paresis or paralysis of the ciliary muscle has been thoroughly well established. In this paper, it is the object of Dr. Magnus to show that the agent in question is powerful for good in many instances in which the action of the ciliary muscle is feeble and unequal to its task; in many cases, in fact, where we have to deal with symptoms of asthenopia. It has been shown, especially by Donders, that the asthenopia which is associated with hypermetropia may for a time be relieved by a single dose of Calabar solution; but it is the object of Dr. Magnus to show that by the employment of the solution for some days or even weeks the recurrence of asthenopia may be prevented altogether. In support of these views, the paper contains a brief account of ten cases which had been treated by instillation. The strength of the solution employed was one part of the extract to sixty parts of water, and five or ten drops were dropped in every night and morning, for a week at a time.

From the narrative of these ten cases, Dr. Magnus thinks he is able to prove that at least the ordinary symptoms of asthenopia may be relieved by the use of Calabar bean in solution, inasmuch as in five cases no glasses were necessary, and the simple instillation was sufficient to restore the functions of the ciliary muscle, and to replace the accommodation within its normal range, with no inconvenience to the patient whatsoever. Against this view, it may be said that in two of those cases there was a recurrence of the asthenopia; but such relapses, he believes, may be prevented by perseverance with the treatment. His observations, so far as they go, tend rather to show that an absolute and abiding cure is to be hoped for in patients of a certain age only; for instance, in four cases the age was greater than fifteen years, and in all of these the improvement was limited, and the use of the drops had to be supplemented by the employment of convex glasses.

Dr. Magnus thinks that his plan of treatment is well suited to all cases of asthenopia in children; and he believes it will be found of great value in all cases which display a tendency to strabismus, inasmuch as, by increasing the amount of accommodation without at the same time straining the convergence, the conditions which tend to the development of a squint are not present in so high a degree.

The continued employment of the curative agent appears to have been attended with no difficulties. The conjunctiva in no way resented the frequent application of the drops, and the patients never complained of pain, the little girl, Case 10, excepted; but her complaints can hardly be said to afford any true criterion, and the author thinks that he can assert this much, if no more, that his observations go a great way to show that in Calabar bean we possess a curative agent whose influence is greater and wider than has been supposed.—*London Med. Record*, March 24, 1875.

Absolute Amaurosis after Suppression of the Menses.

It was not uncommon in pre-ophthalmoscopic days to refer the occurrence of a sudden amaurosis to the arrest of some customary discharge or secretion. Of late, however, it has been questioned whether there was any such causal relation, and Von Graefe believed that thorough ophthalmoscopic examination would in such cases reveal the evidences of double retrobulbar optic neuritis. Dr. J. SAMELSOHN, of Cologne, believes, therefore, that much interest will attach to the case which we give in brief below.

A stout girl of twenty-one, during menstruating was one day exposed to wet, which caused an immediate stoppage of the flow. The same evening she felt a disagreeable sense of pressure in the orbits, and the pain and obscuration of vision increased so much that on the sixth morning she was totally blind. A physician applied some atropine drops, and twenty-four hours later Samelsohn found the following state of things, viz.: Absolute blindness in both eyes, no phosphenes produced by pressure, both pupils dilated to the utmost, the refractive media clear, and the fundus perfectly normal, except that the veins were apparently fuller than natural. The retina around the papilla appeared slightly grayish and highly refracting, while with the upright image it was a slight streak; these features, however, and the fulness of the veins, remained unchanged up to the perfect recovery of the patient. There was also sensitiveness on pressing the globes back. She was treated by hot mustard foot-baths, sinapisms to the insides of the thighs, tartar-emetic in small doses, while Heurteloup's leech was applied to the temple. She afterwards had diaphoretics and pills of aloes and iron. Her sight began to improve, first in the right eye, and then in the left, the beginning of improvement in each case dating from a profuse flow of tears from the eye in question. At end of nine days she was discharged, being able to read Jaeger No. 1 with the right eye, and No. 3 with the left. Vision soon rose to the normal in the left eye, and menstruation was re-established at the end of seven weeks from the attack. The conclusions at which Dr Samelsohn arrived were, that the eye symptoms were probably due to a circumscribed effusion of blood, either into the substance or sheath of the trunk of the optic nerve, above the point of entrance of the arteria centralis retinae. He thinks the narration of the case may be of use in deterring the general practitioner from satisfying himself with calling such cases "hysterical," and he emphasizes the benefit of active treatment, such as was evidently of service here.—*Medical Record*, March 27, 1875, from *Berl. Klin. Wochenschrift*, Jan. 18, 1875.

Treatment of Epistaxis.

Dr. BEVERLEY ROBINSON, of New York, recommends (*Medical Record*, March 20, 1875), in obstinate epistaxis, compression of the facial arteries upon the superior maxillary bones, just before they reach the alæ of the nose, by means of two small pads made of lint. These are sewed to a piece of tape at the proper distance from one another, and the ends of the tape are passed across the cheeks and above the ears, and tied securely behind the occipital bone.

"We do not, of course," Dr. Robinson says, "believe that by compression of the facial arteries we shall be able to arrest all cases of bleeding from the nose. We trust, however, it may frequently be adjoined to other treatment

with marked benefit to our patient, and by itself may prove of the greatest utility in exceptional circumstances where other means are not at hand. For, in point of fact, it is from the septum that takes origin many of our worst cases of epistaxis, and it is this portion of the nasal passages which receives its arteries mainly from the terminal branches of the facial. By compression of the arterial trunk we must, of course, greatly diminish, if we do not stop absolutely, the afferent blood flow.

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Division of the Isthmus to relieve Dyspnœa in Certain Cases of Bronchocele.

SIR G. DUNCAN GIBB, Bart., M.D., Physician of Westminster Hospital, contributes to the *Lancet* (Jan. 23, 1875) an interesting paper on this subject.

"In the course of an experience of many years," he says, "several cases of enlargement of the thyroid gland, affecting one or both of the lateral lobes and implicating the isthmus, have come under my observation. When the isthmus is enlarged, there is usually present a feature of great significance that is the precursor of future mischief—namely, the presence of dyspnoea from pressure upon the trachea, to which very soon it becomes strongly adherent. If not relieved by treatment, the lateral lobes—which in their enlargement sometimes spring from the isthmus itself—may extend on either side of the trachea itself and completely encircle it. The consequence of this is that the tube is compressed laterally, and its form becomes oval, with a very narrow passage to breathe through, which sooner or later ends fatally. An instance of that kind in a young Oxford man was under my observation in 1869, in whom the enlargement was attributed to a cold caught whilst sleeping with the window open. The progress of extension around the trachea was rapid; the compression was so great that fatal dyspnoea occurred in January, 1870, and after death a narrow oval fissure was found to be all that the patient could breathe through during life. Tracheotomy was ineffectually attempted by a skilful hospital surgeon, and, as no relief was afforded, the belief was entertained by a physician of eminence, who saw the case *in extremis*, that an aneurism might be present to account for the symptoms. As I had given the opinion to the father that nothing was wrong beyond the bronchocele and its influence on the trachea, an autopsy proved that only such really existed, and the heart and other organs of the body were healthy. In stating this no blame whatever could be attached to the physician who saw the patient in the hour of his extremity. I could cite other examples, where the disease was gradually progressing towards the same result, and no doubt they are familiar to those in the habit of seeing bronchoceles. However, in some of our hospital museums the preparations themselves show how hopeless are all means of cure when once the trachea is grasped by the tumour. I had long thought over the matter, and came to the conclusion that the only remedy in such cases was to remove or divide that portion of the bronchocele which was in contact with the trachea itself—namely, the isthmus,—*before* it had commenced either to encircle the tube or had become too firmly adherent to it. This last summer the opportunity was afforded me to have this practice tried, and I am happy to say with the best results. The symptom that was the most urgent was dyspnoea, owing to the pressure of the enlarged isthmus, which had formed a distinct tumour over the trachea nearly the size of a walnut. This was adherent to the deep fascia over the trachea, and moved up and down with the tube and thyroid cartilage in the act of swallowing. Great distress and discomfort, and feelings of the most miserable and desponding nature, were almost constantly present, invariably aggravated by attacks of recurrent dyspnoea. I was satisfied the lateral lobes were dipping backwards, and in a few weeks or months would have irretrievably compressed the trachea, as in the case of the young Oxford man. The details are briefly these:—

"Margaret H—, aged twenty-nine, from Shropshire, a cook some years in London, was sent to me on April 27th, 1874, complaining of great discomfort and tension about the neck, and dyspnoea, from the presence of an enlarged thyroid gland, that had been enlarging on both sides of the neck for two years;

but especially so on the right side. She described the feeling about the neck as a smarting one, and the swelling she said "draws the neck"—*i. e.*, made the neck feel very tense, as if tied round with something. This had caused nausea and vomiting for some ten days. She was most desponding, quite pallid, and had changed from a stout to a thin girl. The goitre was distinctly prominent on the right side, and not so visible on the left, but the enlargement was unmistakable on both sides, and the intervening isthmus was continuous from one lobe to the other, and decidedly enlarged, taking the form of a distinct rounded, somewhat projecting tumour over the trachea. In swallowing she felt as if something were pressing on her windpipe, and the isthmus moved up and down synchronously with the thyroid cartilage, showing that it was not only in close contact with the trachea, but possibly attached to it. She was treated by a combination of the iodide and bromide of ammonium with other adjuvants, internally, and an ointment externally of the bromide of lead. She greatly improved, and the swelling on the right side of the neck became freely movable; the trachea could be more distinctly traced from below upwards, the isthmus was decidedly less prominent, and all the other symptoms referable to the breathing got better. She took, for a short time afterwards, the bromide of ammonium and citrate of iron. Her mistress, finding she was in delicate health, declined to keep her, and all the old symptoms returned, with great tension and hardness of the isthmus. I told her the nature of her complaint, and stated she might now and then improve, but the cure of the attacks of dyspnoea was impossible without the removal of that portion of the tumour over the windpipe. To this she consented, and was accordingly admitted into Westminster Hospital on July 2d, and placed under the care of my colleague, Mr. Holthouse. I had previously explained my views to him, which he perfectly comprehended, as we had discussed the matter several times.

"On the 11th, after chloroform had been given, an incision was made through the integuments in the median line over the trachea, about two inches long, the superficial fascia and then the deep were divided on a director, and, finally, the surface of the tumour was exposed, which in size approached that of a flattened walnut. The isthmus on either side of this was more slender and smaller in bulk than the tumour, which permitted of a strong ligature being placed on either side of it with the aid of an aneurism needle. The isthmus was then freed to the inner side of each ligature, divided, and wholly removed, the trachea being observed to be quite free. There was not much bleeding, although several small veins ramified on the surface of the tumour. Subsequent examination showed the removed isthmus to be partly cystic in its character, for on section, one cyst especially was divided, giving exit to some fluid; the remaining portion looked like degenerated glandular tissue.

"By the 14th the wound was nearly healed; on the 17th the last ligature came away. A few days later the wound was perfectly healed, and she left the hospital, feeling no inconvenience about the trachea in breathing or swallowing. The relief afforded by the removal of the isthmus may be described as truly wonderful.

"On the 16th November she called upon me in perfect health; she had got stouter, had married, and there was not a trace of her old symptoms. The trachea could be felt uninterruptedly free from the root of the neck upwards, and the enlarged thyroid gland on either side seemed to have receded from the median line, and was less prominent.

"The results in this case fully justified the hopeful view entertained of the operation, and it was not long after that another opportunity was afforded of again trying its effects, under circumstances somewhat differing and even more unfavourable."

The history of this case is then given and the opinion expressed, that the results will be as favourable in this as in the first case.

"Although the enlarged thyroid gland has been wholly removed several times with success, and quite recently by my friend Dr. Fenwick of Montreal, by Dr. Wolfred Nelson of the same place, and by Dr. Beaumont of Toronto, yet I believe that this is the first occasion in which the isthmus has been either wholly removed or divided, at my suggestion; and the extreme importance of

the subject is my excuse for bringing it before the notice of the profession. I have no doubt that this new remedial measure will receive a fair trial, and I feel confident that it will become one of extreme value and importance in a very dangerous class of cases."

Excision of the Spleen.

PIETRZYCKI, in the *Przegląd Lekarski*, reports the case of a peasant girl, aged 23, from a wound in whose left hypochondrium he found a fleshy tumour three inches wide and four long extending. Externally it presented the appearance of the spleen. The general bodily condition was good. After making several futile attempts at replacing it, he surrounded the pedicle with a strong ligature, and after the amputation found two small vessels which it was necessary to tie. The wound was then closed, no peritoneal symptoms manifested themselves, and in fifteen days complete recovery had taken place.—*Clinic*, March 13, 1875, from *Allg. Wien. Med. Zeitung*, Feb. 9, 1875.

Demarquay on a New Manner of Operating for Strangulated Umbilical Hernia.

Dr DEMARQUAY, in an article in the *Tribune Médicale*, quoted in the *Bulletin Général de Thérapieutique* for February, describes an operation in which an oblique incision is to be made on the left side from the middle of the hernial tumour on to the abdominal wall. The integument and superficial fascia having been divided, the neck of the sac is to be reached, and a small incision made into the lower part of it. The left forefinger is then to be introduced through the opening, and the edge of the hernial aperture divided to the extent required by the case. This incision is to be made on the left side, and through the thickness of the abdominal wall. The wound is to be afterwards closed by sutures and covered by collodion. The right side is avoided in the operation on account of the proximity of the umbilical vein, and the middle line presents an objection in the linea alba. By this operation the hernial sac is only injured to a slight extent, and air is not allowed to enter the abdominal cavity.

[It is evident that this operation would be insufficient in those cases of umbilical hernia where the strangulation is due to twisting of the intestine in the sac, or to the presence of old bands of adhesion. This modification cannot be said to be new to English surgeons.—J. C.]

Dr. Demarquay expresses a hope that this limited operation, performed early, may lead to good results. He says that what is wanted for success in the hospitals in Paris is early operation in cases of strangulated hernia.

[London surgeons would echo this statement. Delays, and the administration of aperients before the cases reach the hospitals, too frequently prevent the operation from being the means of saving life.—JOHN CROFT.]—*London Med. Record*, March 17, 1875.

On Infectio Sine Coitu.

Dr. LEWIS brought before the Medical Society of Berlin (Pick and Auspitz's *Vierteiljahrsschrift für Dermatologie und Syphilis*, 1874) some instances of syphilis communicated through kissing, suckling, and inheritance, which illustrate several important points in the natural history of the disease. In the first group of cases were two women and their children. One woman had an indurated scar on the lower lip, and a maculo-papular eruption of the body. She had noticed in the seventh month of her pregnancy a pustule on her lower lip; having also for some time previous remarked that her husband had sore lips. This pustule left a hard scar. The child, born prematurely, had several spots and small ulcers on the skin, and gummous orchitis. The second woman, having given birth to three healthy children, was infected by suckling a syphilitic child. She had a hard sore on the right nipple, and constitutional syphilis.

Lewin holds that these cases establish, among other better known facts in the natural history of syphilis which he enumerates, certain points less generally admitted, viz., that a woman, even when infected in the latter months of pregnancy, and suffering only from early secondaries, may give birth to a child who presently shall have a tertiary form of the disease; and again, that tertiaries do not need mercury for their production. The next proposition he laid down was, that the symptoms of inherited disease which manifested themselves at birth may disappear without any treatment. The disorder may then become latent, and break out again several years later. [Though this is doubtless a correct statement, Lewin does not adduce any evidence in this paper to confirm it.]

In the following group, a woman with a child at the breast, by giving suck to a syphilitic child, was inoculated herself, and subsequently infected her own child and her husband. The husband died not long afterwards from cerebral affections, which the *post-mortem* notes proved to be syphilitic. The woman was married to a second husband, who never had syphilis, notwithstanding that his wife had frequently syphilitic affections of the pharynx and larynx. Two children resulted from the second marriage, making her offspring three. The child of the first marriage, who had acquired syphilis at her mother's breast, was treated with mercury, and the symptoms disappeared. Nevertheless, she must have had further troubles, for when examined there were found scars and adhesions of the soft palate, and a notch in the epiglottis. She, moreover, has suffered from her sixteenth year from lupus of the thigh and periostitis of the os frontis and tibia, continually relapsing. At seventeen she married a man not previously syphilitic, who died a year and a half afterwards from tubercular meningitis. A premature child was born, who lived fourteen days. Two years later she was married again, and has now a child seventeen months old, who has scrofulous lichen and a gummy ulcer of the thigh. To continue the history of the children of the second marriage of the first woman: one died of syphilis at five and a half months; the other, now a girl aged thirteen, was healthy till her sixth year, when syphilitic eruptions appeared, which continued for five years. This family is a striking example of the long duration of the syphilitic poison, and how deeply it penetrates into the organism. Further, one of these cases shows that a child may inherit syphilis, which will not become apparent for several years subsequently to birth. Probably many cases of ulcerating skin-disease, especially lupus, are really manifestations of syphilis. Lastly, that hereditary syphilis can be derived solely from the mother is also clearly shown by these histories.—*London Med. Record*, March 24, 1875.

Paulet on Urinary Fever.

At the Society of Surgery in Paris, on December 9, 1874 (*Gazette des Hôpitaux*, January 12, 1875), M. Paulet criticized a paper by M. Roux (de Brignoles) on the origin of urinary fever. The author's views on the causes and nature of this disease have some interest. To predisposing causes he assigns little weight, and classifies nephritis, which some hold to be the real cause of the symptoms in all cases, with diarrhoea, rheumatism, etc. As determining causes, he maintains two factors to be essential—an alkaline or partially decomposed urine, and a laceration of the mucous membrane of the urethra, over which the alkaline urine must pass. He describes the production of the fever as follows. Let a patient have a strictured urethra; if behind the impediment there be no ulceration or breach of surface secreting a muco-purulent discharge, the instruments necessary for evacuating the bladder or dilating the contraction may be passed without causing urethral fever or other inconveniences. But should the catheter, in threading its way through the contractions, tear a fold or chafe the projecting or ulcerating points in the distended urethra behind the stricture only sufficiently to cause a very slight bleeding, the door is opened to absorption of septic matter from the disorganized urine, and urinary fever takes place. M. Paulet questions the accuracy of this explanation. He allows that alkaline fetid urine is a necessary condition, believing that true urinary fever does not occur when the urine is normal; but he maintains that the evi-

dence brought forward by the author, to show that the septic absorption can take place only through the lacerated urethra behind the stricture, is insufficient. Paulet holds that urinary fever, though far most frequent among strictured patients, does also occur in cases of chronic eystitis where the urethra is healthy and empties itself during micturition to the last drop. He points out that the observations of Küss and Jusini prove that the vesical epithelium, in its healthy state, has very little, if any, absorbing power; but that alkaline urine softens and disengages the epithelial cells from each other, so that, even if the mucous membrane be not quite bare, the mere touch of the sound causes an erosion and opens the door for the entry of urinary poison. If this be correct, and the septic agents of decomposed urine can be absorbed from other parts of the urinary tract and not solely from the urethra, Paulet desires that the name urinary fever should be retained, instead of urethral fever as proposed by the author.

With regard to the nature of the toxic agents, to whose introduction into the circulation urinary or urethral fever is due, Roux believes them to be ferments, because the alkaline urine is usually highly charged with multiplying germs of the torulaceous class. In short, urinary fever is a zymotic affection due to fermentative poison, and not simply to absorption of carbonate of ammonia into the blood.

Uremia from parenchymatous nephritis or pyelonephritis, often present in long-standing affections of the bladder or urethra, is held by M. Roux to be so distinct by its symptoms from urinary fever that it cannot be confounded with the latter. Paulet does not admit this. He points out that, although a well-marked case of uræmic convulsions has little in common with urinary fever, yet many of the manifold forms of uræmic poisoning merge in a manner not to be distinguished from cases of urinary fever. If the occasional similarity of uræmic poisoning and urinary fever be granted, he is ready to allow that usually these two affections are unlike each other. Paulet, regretting that the author has devoted but little of his treatise to the part played by kidney affections in producing septic urinary poisoning, declines to agree with Malherbe and others who ascribe both urinary fever and uræmia to them alone, to the complete exoneration of the bladder and urethra. Malherbe formulates his theory as follows: In uræmic or urinary fever the symptoms may be divided into the reactionary, or those due to inflammation of the kidney, and those due to intoxication from retention of the materials of the urine in the blood. The more violent attacks, resembling ague, are caused by intense renal congestion; the remittent form accompanies interstitial nephritis. In other words, to borrow those of Girard, the conditions described under the name of urethro-vesical fever, or urinary intoxication, may be attributed to two causes: 1. The accumulation in the blood of the constituents of urine through the excretive function of the kidneys being impeded or abolished by injuries of the acini—symptoms that are identical with uræmia in Bright's disease; 2. Absorption of decomposed urine—symptoms analogous to those of putrid intoxication. Paulet prefers to occupy a position between Roux and Malherbe, believing that, though not constantly, the kidney is often combined with the bladder as the seat of inflammation in urinary fever.

In his directions for treating urinary fever, Roux urges early cure of vesical catarrh if it be present; the administration of bromide of potassium to diminish the sensitiveness of the urethra; and he sets high value on quinine, and especially on alcohol, as a means of reducing fever. He also, from a small number of experiments, believes that thirty grains (two grammes) of ergot given before the catheter is passed tends to prevent fever. During the progress of the fever, Roux gives most confidence to quinine and alcohol in considerable doses.—*London Med. Record*, March 10, 1875.

Luxation of the Penis.

Dr. MOLDENHAUËR publishes an account of a case of this which he regards as almost unique, having been able to find only one at all resembling it, reported as occurring in Nélaton's practice, and quoted by Hyrtl in his *Topographical*

Anatomy In that case the penis of a boy was dislocated under the skin of the scrotum, and Nélaton reduced it by means of a forceps. The present case was a more complicated one, and occurred in the person of a robust husbandman, fifty-seven years of age, who, while driving a cart, when in a state of drunkenness, on October 25, 1867, fell out of it, and, as he got up, came in contact with the wheel, receiving considerable injury in the pubic region. Examined soon after, the scrotum was found to be greatly distended with blood, but the organs of the abdomen had not undergone injury. The glans penis could not be recognized—a soft, bloody mass occupying its place. There was but little pain. All attempts to pass a catheter were in vain, the instrument never getting beyond the symphysis. On the 26th the patient was found to have slept well, and to be in little pain. No urine had been passed, but a good deal had been effused under the scrotum, greatly distending it. Renewed attempts at catheterism were as fruitless as before, and a button-hole operation was resolved on, in order to discover the uninjured portion of the urethra. For this purpose, a large and deep incision was practised in the perineum, which gave rise to much parenchymatous bleeding, and proved unavailing, as the urethra could not be found. Urine continued to be discharged into the wound, producing a burning sensation, which was the only suffering the patient complained of.

We need not pursue the details of the history of the case given by the narrator, only observing that another attempt made to discover the urethra was as fruitless as the first, and that a considerable quantity of clear, unchanged urine continued to be discharged at long intervals from the wound, the exploring wounds suppurating and granulating kindly without any bad local or general symptom. On November 6, however, an abscess formed opposite the spine of the ilium; and on this being opened next day, much pus was discharged. The opening was gradually enlarged, and great was the surprise caused at finding that much more urine was discharged from this inguinal aperture than from the wound at the root of the penis. On the 10th a third unavailing search was made for the urethra by enlargement of the scrotal wound, and then the idea first occurred of searching for the urethra in the upper inguinal region. A thick, gum-elastic catheter was introduced into the opening beneath the spine, and after some trouble its end was brought out at the wound below the root of the penis. It was left *in situ*, and on the 12th the skin and cellular tissue covering the catheter were cut down upon so as to expose it in its whole course. On removing it, there was found at the bottom of the rather deep wound, not the remainder of the injured urethra, which had been expected, but the completely uninjured penis, with its glans and inner preputial fold neatly embedded in the fat and cellular tissue covering the abdominal muscles. Thus the entire penis to its corona glandis became separated from its integument and had been carried high up into the inguinal region. A catheter introduced into the urethra proved this to be quite uninjured, but would not penetrate beyond the symphysis. The glans and prepuce were free, but the remainder of the organ had acquired such close adhesions to the abdominal muscles that, at the request of the patient, attempts at separating them were abstained from. As much of the abundant fat was removed, however, as was necessary to maintain the freedom of the urethra, and the somewhat large wound was left to heal by granulation. The urine flowed very freely, so that there was no reason for a plastic operation, the patient being quite willing to renounce any other of the functions of the penis.

It is, therefore, evident that what was at first taken for the crushed penis was really only its outer integument, whence the penis had escaped in a manner at once surprising and difficult of explanation. The man was seen again at the end of a year. The penis was nearly up to the glans united with the abdominal wall, and covered by skin, but was movable with tolerable ease. The glans was uncovered, very movable, and capable of being turned in any direction while the urine was passed. From time to time distinct but painless erections occurred, but these did not induce the patient to wish for the performance of any plastic operation in order to set the organ more at liberty—he being, indeed, wisely well content with his present condition.—*Med. Times and Gaz.*, Jan. 2, 1875, from *Berlin Klin. Woch.*, Nov. 9, 1874.

Hairy Tumour in the Rectum.

DANZEL (*Archiv. für klin. Chirurg.*) reports the case of a tailoress, aged 25, on the anterior wall of whose rectum, two inches within the anus, he discovered a firm tumour with large bunches of hair, which latter extended outside the anus. The tumour was extirpated, but the patient succumbed at the end of three months, after the perforation of the peritoneum. Microscopic examination showed the surface of the tumour to be covered with common epidermis. The tumour itself contained a tooth, rudiments of bone, fatty tissue, nerves, and finally, portions of brain tissue. The tumour is therefore to be considered as a true dermoid, which variety has, we believe, never before been found in this location.—*Clinic*, March 13, 1875, from *Central. f. d. Med. Wissen.*, Feb. 6, 1875.

Injection of Ergot for Internal Hemorrhoids.

Dr. ORR reported to the Cincinnati Academy of Medicine (*Clinic*, April 3, 1875) that he had lately made use of rectal injections of the fluid extract of ergot in two cases of internal hemorrhoids. He ordered a half drachm of the fluid extract to be thrown into the rectum together with one ounce of water daily. When he commenced the treatment the tumours were quite large, but within a few days disappeared entirely, as did also the symptoms produced by them.

Dr. CONNER had also treated a case of internal hemorrhoids occurring in a woman in the manner described by the last speaker. She reports herself entirely relieved. He mentioned Langenbeck's suggestion that injections of ergotin be made with the hypodermic syringe and that it be thrown into the submucous connective tissue. Had employed the agent subcutaneously in two cases of varicocele with excellent results in one of these. In this one, but two injections were found necessary. The latter of the two was followed by an abscess, in connection with which the doctor mentioned the curious fact, that, although the injection was made on the left side, the abscess occurred on the right; he was certain that the septum had not been pierced by the needle. In the other case referred to, four or five injections had been made with no result whatever. He was inclined to attribute many of the failures following the use of ergot to unreliable preparations. In two cases of varix of the lower extremity, its employment was a perfect failure.

Supra-condyloid Amputation of the Thigh.

Prof. W. STOKES read before the Surgical Society of Ireland (*Irish Hospital Gazette*, Feb. 15, 1875) an interesting paper on this special form of amputation operation, in which he again drew attention to the advantages which he considered might be claimed for it. He laid on the table casts of the stumps resulting therefrom in seven cases which he had himself operated on, and also a cast of a stump from a case of Mr. B. Wills Richardson's, upon which that gentleman had performed the operation with a most successful result. A case which Mr. MacNamara had also operated on with equally good results was likewise alluded to. Prof. Stokes' paper contained the particulars of the two last cases upon which he had performed supracondyloid amputation, according to the rules laid down in his former communication to this Society, and to the Royal Medico-Chirurgical Society of London (May 20th, 1870). In both these cases the operation was undertaken in consequence of necrosis of the upper third of the tibia, with synovial effusion and thickening in the knee-joint, and for extensive necrosis of both bones of the leg respectively. Both patients recovered well, and with good, shapely, and useful stumps, which the members of the Society had an opportunity of inspecting after the meeting. The author drew attention in chronological order to the various operations in the vicinity of the knee-joint which preceded the supracondyloid amputation, viz., those of Velpeau, Lane, Syme, Carden, Gritti (of Milan), Melchior, and Prof. Rizzoli,

of Bologna. The success of the operation depended upon the site of the femoral section, which should be from half to three-quarters of an inch above the articular cartilage. The medullary canal was not thereby opened, and the liability of the split patella tilting upwards obviated. To prevent the latter tendency Prof. Stokes had, in the last cases he operated upon, stitched the surfaces of the two bones together with carbolized catgut sutures, and left the ligature in. The advantages which Prof. Stokes claimed for this operation were twofold: first, those peculiar to the situation at which it was performed; and secondly, those peculiar to the operation itself. In the first category might be enumerated the circumstances that the stump obtained was more useful than that from other amputations of the thigh, and the danger and shock of the operation less; that there was diminished liability to the formation of tubular sequestra; that pressure could be borne on the face of the stump, and that the patient could walk without appearing as if he had ankylosis of the hip-joint. The special advantages were: 1. The posterior surface of the anterior flap being covered by synovial membrane, there was less danger of suppuration and of purulent absorption. 2. The possibility of the patella slipping was prevented. 3. The existence of an osseous covering to the cut surface of the femur. 4. The vessels were divided at right angles. 5. The diminished liability to sloughing of the anterior flap from its being covered with synovial membrane; and also the resulting rounded-cone form of the stump, which had no tendency to become conical. 6. The preservation of the normal attachments and functions of the extensors of the leg. In conclusion, Prof. Stokes remarked that as yet the mortality after this operation in Ireland had been *nil*; and that he had received most favourable opinions as to its advantages from several surgeons, including Messrs. Wheelhouse and Jessop of Leeds.

Dr. CORLEY said that it had been roughly estimated that every inch of the femur removed represented an increase of 10 per cent. in the mortality. He had recently performed Mr. Carden's operation, and was not pleased with the results, as two ugly projecting pieces of bone were left, and the flap being brought close to the sawn end of the bone, the consequences might be imagined. In Prof. Stokes' operation this pressure on the flap was obviated. Instead of stitching the bones together, as had been done by Prof. Stokes, he would suggest section of the rectus and cruræus muscles so as to prevent the tilting up of the patella.

Prof. MACNAMARA had performed the supracondyloid operation in a very unpromising case with most satisfactory results. The splitting of the patella was accomplished with the greatest ease.

Mr. H. G. CROLY thought that the operation brought forward by Prof. Stokes was more suited for cases of necrosis, or of severe injuries to the bones of the leg, than for cases of diseased knee-joint; the synovial membrane, which was utilized in the supracondyloid amputation, being diseased in cases of "white swelling." As regards the mortality of operations in this situation, he had not lost one of the several cases of Teale's amputation he had performed.

Mr. B. WILLS RICHARDSON remarked that in the third edition of M. Sédillot's work published in 1865, reference was made to the operation of M. Seymanowski, which was similar to that termed supracondyloid by Prof. Stokes. To prevent tilting forward of the patella in the case in which he (Mr. Richardson) had operated on according to this method, he had divided the tendon of the rectus; a proceeding which did not weaken the power of the stump, and which he preferred to putting a ligature through the small portion of the patella left after the removal of its articulating surface.

The Treatment of Fractured Patella.

Professor SPENCE of Edinburgh remarks (*Practitioner*) that, though the screw hooks designed by M. Malgaigne for transverse fracture of the patella are perfect as a mechanical appliance for maintaining the fragments in accurate apposition, yet they have never been very generally used on account of the pain and irritation of the skin often caused by them. Of late years Mr. Spence has adopted the following method of using these hooks without insert-

ing them through the integument, and it answers its purpose admirably. The two fragments of the patella being held by an assistant in as close apposition as the amount of effusion in the joint will allow, a broad piece of strong mole-skin adhesive plaster is applied close above the upper fragment; this piece should nearly encircle the limb, and to make it fit round the upper edge of the patella a crescentic piece is cut out of the centre of the lower margin. A similar piece is applied below the lower fragment. Two or three smaller bits are then placed one over the other just where the points of the hooks will be fixed, so as more thoroughly to protect the skin. Care must be taken to have the integuments on the stretch when the plasters are applied, and the latter should be put on some hours before the hooks are inserted, so that they may have time to adhere firmly: this may be secured by keeping a bandage firmly applied over the plasters in the interval.

In the same journal, Mr. McGill describes the mode of treatment adopted in these cases by Mr. TEALE of Leeds. He fixes the limb on a straight back splint, or simply places it slightly bent on a pillow between sand-bags, and applies evaporating lotion. He finds that the fragments thus left to themselves, without the use of any hooks, straps, or other apparatus, approximate steadily and naturally. The patient is kept in bed for six or eight weeks, and when allowed to get up, is fitted with a knee-cap of chamois leather. Mr. McGill testifies that the results of this "expectant treatment" are quite equal to those which can be obtained by any other plan. He relates a case in which the distance between the fragments was thus spontaneously reduced from $1\frac{1}{4}$ inches to $\frac{1}{4}$ inch in less than five weeks. He gives the following explanation of the process. The separation of the fragments is in the first instance partly due to spasmodic contraction of the quadriceps extensor, which subsides naturally after a few days, and partly to the effusion into the joint which always occurs at the time of the accident; as this is slowly absorbed, the fragments again fall together. Lastly, the fibrous band which is formed between them has, like all other cicatricial tissue, a tendency to contract, and thus completes the approximation.—*London Med. Record*, March 31, 1875.

On the Treatment of Aneurism.

In the *Bulletin de Thérapeutique*, October 25, 1874, we find an interesting *résumé* of a communication from M. VERNEUIL, to the Société de Chirurgie at their sittings of July 29 and August 5. This comprised the history of seven cases.

The first was that of a man aged forty-two, suffering from a popliteal aneurism of only a few weeks' duration. Flexion of the limb suspended the pulsation of the tumour. This treatment (whether voluntary or forced flexion is not stated) was continued during fifteen days in an intermitting manner, as the patient could bear it, from one to three or four hours each day. The tumour diminished considerably, and lost its bruit, but continued to pulsate. Finding now that complete extension stopped the pulsation, M. Verneuil placed the limb in an immovable apparatus in the extended position, and the patient walked on crutches; but three weeks of this treatment produced no benefit. Then the patient resolved to submit to forced flexion for eleven hours, in sittings of half-an-hour at a time, with intervals of two or three minutes. This rendered the cure complete and permanent.

Case 2 was also one of popliteal aneurism, in a man aged thirty-nine, with atheromatous arteries. Forced flexion was employed five or six times a-day, in sittings of from ten minutes to half-an-hour, for twenty-two days, the patient taking digitalis and chloral. This having failed, the femoral was compressed in the groin with a shot-bag of nine pounds, for six hours a-day, but it is not said for how many days; and then with the finger for eleven hours on two successive days. The tumour was very much reduced, but not quite cured. The cure, however, was completed during the next four days by alternations of forced extension, in sittings of ten minutes, compression with the shot-bag in sittings of twenty-five minutes, and forced flexion in sittings of fifteen or twenty minutes.

Case 3 was one of traumatic aneurism of the radial in the middle of the forearm, which was cured by the application of instrumental compression to the radial at the upper third of the forearm for twelve hours on the whole during two days, assisted by the patient himself compressing the brachial at the bend of the elbow during the intervals.

Case 4 was one of traumatic aneurism of the superficial palmar arch, caused by an incision which had been made for the relief of diffuse inflammation. (The aneurism was attributed by M. Verneuil not to direct wound of the vessel, but to inflammatory softening of its walls.) As soon as all active general symptoms had subsided, an attempt was made to treat this by immediate compression on the tumour, compression of the radial and ulnar arteries, and compression of the brachial, all at once. This was carried on for fifteen days; but it did not cure the aneurism, which, on the contrary, threatened to burst. Solution of perchloride of iron (twenty per cent.) was then injected. The brachial was compressed, and four drops were first injected, and then four minutes afterwards a similar quantity. In a quarter of an hour the expansile pulsations had ceased, and in a month the cure was perfect.

Case 5 was one of spontaneous popliteal aneurism in a man sixty-five years old. Forced flexion was tried, but without benefit; nor were digital compression in the groin and compression with a shot-bag more successful; and this failure was attributed to atheroma of the arteries. The patient complained much of the pain of the compression. Coagulating injections were then tried; first, of six drops of a solution of fifteen per cent. of perchloride of iron, which produced some amelioration; but a month afterwards the aneurism was as before; next, of seven drops of a solution of twenty-two per cent., which was painful, but produced a good deal of coagulation; and, finally, of eight drops of "iodotannic solution," compression being made above and below the sac for one hour and twenty-five minutes. This operation was disastrous; the leg mortified, evidently from embolism of the tibials, pyæmia supervened, and the patient died fifteen days afterwards. M. Verneuil blames himself in two particulars for the treatment of this case, viz.: 1, that he did not persevere with the use of the perchloride instead of the iodo-tannic solution; and, 2, that he did not amputate at once on the occurrence of gangrene. Besides (as he most truly observes), the case shows that, on the failure of compression, it would have been safer to have recourse to the ligature.

Case 6 was one of spontaneous popliteal aneurism in a man thirty-two years of age. The aneurism had existed for a year, and was of very large size. Flexion not having much effect on the aneurism, the treatment by pressure with a shot-bag in the groin was commenced, and this was continued in an intermittent manner for some days for about two hours a-day, but the sac continued to increase, and became inflamed, the inflammation extended to the knee-joint, and the whole thigh began to be œdematous and inflamed. Amputation was performed as a last resource, but the man died in a few hours. The extreme pain which preceded this fatal inflammation appeared to depend on the pressure which the rapidly growing aneurism was found to be making on the peroneal nerve. The sac of the aneurism was very thin, and was filled with soft clot. In commenting on this case, M. Verneuil says that either total compression should have been made so as to fill the sac at once, or the ligature should have been used. [He intimates also that the old method by opening the sac might possibly have been best, but gives no reason for this conjecture. As the man was in perfectly good health before the commencement of treatment, there seems no reason why the Hunterian operation should not have proved successful, as it has done in many other cases of aneurism, even more voluminous and more rapidly growing than this.—*Rep.*]

Case 7 was one of aneurism of the femoral in Hunter's canal, in a man aged forty-seven, following on the kick of a mule, and believed to be diffused, that is, to have followed the rupture of the sac of an ordinary aneurism. Compression by means of a shot-bag having been tried, and failed, before his admission into hospital, and the man being in a bad state of health, with inflammation of the knee-joint, and œdema of the leg, the femoral artery was tied at once. The operation was performed "below Poupart's ligament," *i. e.*, we presume, on the

common femoral artery. The patient slowly recovered, and the general health became re-established. The tumour was reabsorbed without suppuration in five months. From this and some of the other cases, M. Verneuil concludes that pressure on the vein, causing capillary obstruction, and hence increased arterial tension, is the cause of rupture in many cases of aneurism, and that this danger and that of inflammation of the sac may often be averted by the timely use of the ligature.

M. Verneuil thus sums up his series :—

Compression succeeded twice and failed four times; it was abandoned in two of the cases on account of the pain, and in the other two because it produced no good effect. M. Verneuil believes that it is better borne when made with a bag of shot than with any other mechanical means. [Few surgeons will share this opinion, unless by “mechanical means” the author intends to exclude digital pressure, which is certainly more easily tolerated by most people; and, even if restricted to mechanical pressure in the narrower sense, the opinion is one on which much doubt is permissible.—*Rep.*] Pressure in general, M. Verneuil says, “is an imperfect method, and sometimes hurtful.”

Flexion was twice beneficial, once curative by itself. In two other cases it failed.

Extension is, in M. Verneuil’s opinion, useful to a slight extent as an adjuvant.

Coagulating injections were only once successful (viz. in Case 4). The method is difficult to practise and very dangerous. In old people it should not be tried. The perchloride of iron is the only agent which should be employed.

The *ligature* in the only case tried was extremely successful, but M. Verneuil’s personal experience of this treatment is not sufficient to enable him to speak from his own experience. He thinks it dangerous to attempt primary union of the wound. [We have no doubt that further experience would reverse this opinion.—*Rep.*]

Amputation should be reserved for cases of the most grave nature—gangrene, diffuse inflammation, arthritis, rupture of the sac, and hemorrhage; but when the indication is distinct, the operation should not be deferred.

As an appendix, a communication is given from M. DEMARQUAY to the Société de Chirurgie, on the treatment of aneurism in old persons—the conclusion of which is that, when the arteries are atheromatous, both the ligature and flexion are very dangerous, and that the best plan is to employ digital pressure in a mild form, assisted by elastic support to the aneurism.

Finally, the narrator of the case quotes from the *British Medical Journal*, August 8, 1874, the conclusions of the present writer (Mr. T. HOLMES) on the treatment of popliteal aneurism, which nothing in the present series of cases tends to negative. The chief points are as follows :—

1. In rapidly growing aneurism with thin sac, especially if traumatic, the ligature should be early practised (see Case 6).

2. The success of the ligature has been much greater in the hospitals of Great Britain of late years than the published statistics show to have been the case in earlier times.

3. In hospital practice compression has not been more successful than the ligature—though no doubt it might be made so by greater care in its application.

4. It is well not to insist too long on compression, if it do not at once produce some considerable improvement.

5. Flexion should be tried when it acts powerfully on the pulsation of the tumour, but should not be used in a painful manner, nor too long persevered in.

6. There is no proof of the utility in popliteal aneurism of the less common methods of treatment, such as galvanism, coagulating injections, manipulation, the temporary ligature, or the introduction of foreign bodies.—*London Med. Record*, March 10, 1875.

On the Cure of an Aneurism of the Right External Carotid Artery by Digital Compression.

Dr. MARQUES, of Lisbon, lately reported this case to the Academy of Medicine of Paris (*Gazette Médicale de Paris*, February 6, 1875, and *Gazette Hebdomadaire*, February 5). The case is also published at length in the *Correio Medico de Lisboa* for January 9.

The patient was a gentleman aged thirty, resident in Bahia. About November, 1873, he began to feel pain in the right side of the neck and the right ear. The pain was intermittent, and did not give him much trouble. On August 31, 1874, a medical man saw him for the first time and detected an aneurism. An attempt was made to cure him by digital compression on the common carotid, for nine hours a day during the first ten days, and for ten or twelve hours during the next twenty-nine days, aided by the application of a bladder full of ice to the tumour, and the internal administration of digitalis and hydrate of chloral. Under this treatment the tumour became much harder and somewhat smaller, but still pulsated. He embarked for Lisbon on November 6. He suffered a good deal on the voyage from sickness, which he attributed to the use of digitalis, and which ceased on his giving up taking that drug. He continued to use chloral. From this time he suffered a good deal from pain in the tumour and in the ear; it increased much in intensity, but ceased on the use of some soothing lotions after his arrival in Lisbon. He was admitted into the *Maison de Santé* at Lisbon on November 15. The tumour at this time was oval, measuring seven or eight centimètres (rather more than two inches) in the smaller diameter, with its lower end behind the angle of the jaw and its narrower in connection with the right lobe of the thyroid gland below, touching the thyroid cartilage on its inner and the sterno-mastoid muscle on its outer side. It had the usual pulsation and bruit of aneurism, which were at once stopped by compression of the common carotid. The veins of the part were somewhat dilated. There were no morbid sounds in the heart or lungs. The diagnosis was "a false consecutive aneurism" of the right external carotid; and it was agreed that a renewed attempt should be made to cure it by compression. This treatment was commenced on November 21, after six days' rest and medical treatment. The compression was made for seven hours by the medical men and male nurses of the *Maison de Santé*, the patient being in the sitting position. The common carotid was compressed against "Chassaignac's tubercle," *i. e.* the anterior tubercle of the transverse process of the fifth cervical vertebra. In half an hour the patient became giddy, and soon afterwards fainted; and after this the compression was made in the horizontal posture. After forty days of treatment, comprising on the whole 283 hours of compression, the pulsation gradually disappeared, and the patient was completely cured. The points which were observed during the process strike the reporter as of considerable interest. One was that on December 15 it was remarked that the tumour had a feeble pulsation, even when the carotid was completely compressed, and it was discovered that this was due to pulsation in the superior thyroid artery, from anastomotic circulation. Another was, that after the definitive cure of the tumour (on December 30) pulsation could be perceived above the tumour, in the upper part of the external carotid, which was evidently due to anastomotic circulation, since it was not checked by compres-

¹ Is it allowable to express a hope that some more intelligible language may get into use in describing aneurisms? The present writer [Mr. T. HOLMES] has read and written much on aneurism, yet he must profess his entire uncertainty what is meant here by the terms "false" and "consecutive." It might be that the consultants thought that the tumour had been ruptured during the voyage in the efforts of vomiting, and therefore called it "consecutive," and also that it had originally been formed only of the external coat of the artery, and therefore denominated it "false;" but there is no indication of this in the Portuguese narrative. The narrators (the surgeons of the *Maison de Santé*) speak of the "constantly gradual progress of the aneurism" during the voyage, and of its having enlarged both in outward direction and towards the pharynx.

sion on the common carotid of that side. The account refers to a collection, made by the present reporter [Mr. T. Holmes], of seven cases of compression of the carotid for aneurism in the neck. In two cases it failed, and the carotid was tied, with a fatal result in each case; in the other five it succeeded, four being cases of digital, and one of instrumental compression. This is therefore the fifth successful case of digital compression of the common carotid for aneurism in the neck.—*London Med. Record*, March 10, 1875.

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On a Case of Traumatic Femoral Aneurism cured by the Ligature of the Artery on Anel's Method.

Dr. A. AUDÉ relates, in the *Bulletin de Thérapeutique*, February 15, 1875, a case which occurred in 1872, in a man aged twenty-nine, who accidentally stabbed himself in the thigh. The hemorrhage was very violent, but was restrained by pressure. He was admitted next day into hospital, very pale from loss of blood, and suffering much from pain in the thigh. On the bandages being removed next day, *i. e.* the second after the accident, a vertical wound was found about an inch in length at the junction of the lower and middle third of the thigh, over the course of the artery. The whole thigh was enormously swollen, and pulsation could be felt over the whole of the anterior part of the limb, from its centre to about an inch above the internal angle. There was also very loud rasping arterial bruit. Pressure on the femoral in the groin suppressed the pulsation and bruit at once. The pulsation in the arteries below was perceptible, though very feeble. During the examination the tumour became more prominent, and it was necessary to do something at once. The surgeon, thinking that it was out of the question to attempt to tie the artery above and below the wounded part (though he does not explain his reason for thinking so), and considering that the Hunterian ligature was too uncertain, and in the patient's condition too dangerous, determined to continue the pressure, in the hope that (as he expresses it) "the diffused primitive aneurism might transform itself into a false consecutive aneurism," *i. e.*, in simpler language, that a complete sac might form. Accordingly, a tourniquet was loosely applied over the femoral above, and compresses and bandage to the wound. The sac formed accordingly, the tumour becoming more defined, though it was still of very large size, and about five weeks after the accident, as the aneurism had begun to increase, and the wound began to open out and threaten hemorrhage, it became necessary to operate. The superficial femoral artery was therefore tied just above the tumour, and about an inch below the origin of the profunda. Dr. Audé remarks that the pulsation of the popliteal had long ceased to be perceptible, yet the limb continued to be perfectly nourished, which led him to believe that the collateral circulation had already been re-established. The case did perfectly well, except that the aneurismal sac suppurated, and it was necessary to lay it freely open; and in a few months the man returned to his employment, that of pointsman on a railway.

[We have thought this worth quoting as an example of the success of Anel's operation—an operation rarely performed now-a-days on the femoral artery. The motive of the surgeon for postponing the ligature of the vessel above and below the wound, which would otherwise seem certainly the most obvious treatment, appears to have been the exhaustion of the patient at the time of the accident. It will be noticed, however, that this delay did not save the patient from the necessity of ultimately laying the sac open.—T. HOLMES.]—*London Med. Record*, March 10, 1875.

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The Occurrence of Hemorrhage after Esmarch's Method.

M. DUTRAIT, one of the *internes* of the Lyons hospitals, in a communication to the *Lyon Médical* for March 7 and 14, furnishes some particulars of the cases in which hemorrhage has followed the employment of Esmarch's method in that city. There, as elsewhere, he says, it has taken the place of the principal assistant at operations, and he suspects that there has been some of that

indiscriminateness in its adoption which characterizes the reception of all novelties. At first its incontestable advantages were alone remarked upon, but now it has been employed with sufficient frequency to allow of a mature judgment being delivered, and several questions of practical importance receiving solutions. In this paper M. Dutrait confines himself to the question of the greater frequency with which hemorrhage has been observed at Lyons. This he considers according to the three circumstances under which it may occur—viz., immediately after the operation, within twenty-four or thirty-six hours after it, and at the end of several days.

The *immediate* hemorrhage which ensues on gradually diminishing the compression, although covering the whole surface with blood, is of little consequence, being, in fact, chiefly venous; and if, as recommended by M. Gayet, of Lyons, the remaining turns of the compressing bandage are suddenly loosened, the dark venous blood ceases to flow, the smaller arteries, which can then be secured, only yielding blood.

The *secondary* hemorrhage, also, which takes place at a more or less remote period after the first twenty-four hours, has nothing peculiar about it after this procedure; but that which occurs within the twenty-four hours, and generally in from three to six hours (and which the author terms *hemorrhagie précoce*, as distinguished from that occurring later), is a direct result of the procedure, inasmuch as it is much more rarely met with under other circumstances. There is a general bright red oozing without any tendency to spontaneous arrest; while besides this there are not infrequently jets of blood from small arteries that have escaped the ligature. This hemorrhage is so often observed at Lyons that Dr. Dutrait can only characterize it as the ordinary occurrence; and the application of the apparatus is the same as that employed by Esmarch, except that the constricting-tube is generally replaced by several turns of bandage kept *in situ*. In the present paper notes are given of twenty-eight cases, and an observation by Prof. Courty, of Montpellier, is quoted, to the effect that so habitual is hemorrhage in his cases that as much blood is lost as was supposed to be saved. Of twenty-eight major operations in which elastic compression has been employed, loss of blood occurred in eighteen, and in twelve at least to such an extent as to compel intervention. Hemorrhage has been oftener met with in amputations than in excisions, and oftener in amputations for traumatic injury than for disease. In the author's opinion, as in that of other Lyons surgeons, the procedure may easily be dispensed with in amputations in which digital compression can be easily effected; but in operations upon the bones and joints its value is very great—in the so-called operations of conservative surgery. In fact, many operations of this kind would be impossible without its aid, and a number of small delicate ones are rendered more practicable, such as the sutures of tendons, ligatures of arteries, the removal of sequestra, the search for foreign bodies, etc., all of which become wonderfully simplified when blood no longer covers the tissues.

The hemorrhage above described may be best avoided by observing certain precautions: 1. Tie all the arteries that are anatomically described, when they can be detected. 2. After the ligature wait a considerable time without applying any dressings. M. Ollier leaves his patient to recover himself gradually, and then returns to examine whether any hemorrhage exists. 3. The paralysis of the vaso-motors is rendered more rapid by the employment of hot sponges, which are afterwards kept in contact with the wound for some instants. 4. If these means are thought to require too much time, a modification of the procedure contrived by M. Mollière may be adopted. After having carefully compressed the limb from its extremity, he arrests the application of the bandage at the level of the seat of the operation, and then applies another bandage a few centimetres higher up, terminating it as usual. In this way a space is kept filled with blood, which may be allowed to issue during the application of the ligatures—this greatly favouring the search for the smaller arteries, and the distinguishing them from veins. 5. Whenever it can be used without inconvenience, dressing the wound with *eau de Pagliari* gives great security. 6. The medullary arteries often bleed considerably, and sometimes exclusively; so that the perchloride or other styptic should not be neglected.

7. In all cases gentle and methodical compression should be applied to the limb. 8. For some hours the patient should be carefully watched, as the hemorrhage is insidious, and especially when cotton-wool dressing is employed. —*Med. Times and Gaz.*, March 20, 1875.

Midwifery and Gynæcology.

Perchloride of Iron in the Treatment of Post-partum Hemorrhage.

In the course of a discussion upon a case of post-partum hemorrhage treated by injection of perchloride of iron, read before the Obstetrical Society of Edinburgh, Dr. MATTHEWS DUNCAN (*Edinburgh Med. Journal*, March, 1875) presented his opinions on this important practical subject, as follows:—

When injection of perchloride of iron in solution was recently brought prominently before the profession, and on other occasions, it was prematurely described in terms of injudicious laudation—"No woman now should die of post-partum hemorrhage," it was said. Unfortunately for the boastings, women had died from post-partum hemorrhage, apparently more than ever, and even when the vaunted remedies of perchloride of iron and transfusion—both declared to be inestimable and sovereign—had both been employed with skill. The journals had recently had more of these cases than he ever recollected having previously seen. This boasting was for him a bad omen. The best were always modest. He made no doubt that in this instance the boasting was from good motives; and a little boasting or confident speaking in private might be permitted, as tending to secure the confidence of patients, but it was altogether out of place in medical societies and medical journals. Medical history was full of the lamentable wrecks of boasted remedies, and even of such as had had solemn approval, like the *semper, ubique, et ab omnibus* of theologians; and medicine was now, he hoped, too far advanced for any new remedy to secure general confidence, without being able to show satisfactory credentials better than the support of great names and clever hypotheses.

Every one who had seen much of post-partum hemorrhage, the not very rare cases of extreme and deathlike prostration, with early and complete recovery, and that under all kinds of treatment, would, on reflection, easily understand what a slow and difficult matter it must be to establish the utility of a new remedy. The difficulty and slowness were greatly increased by the rarity of the cases of the worst form—that is, of really imminent danger of death. The recent copious shower of cases in the journals requiring perchloride of iron injection, and when life was supposed to be saved by the use of the remedy, was a very unsatisfactory shower. Dr. D. could not avoid making, in regard to these cases, the remark, which had been ably made already with a similar application by Dr. Keiller, that it was a pity that many of these poor women had not been simply left alone. He had no doubt of the justice of Dr. Keiller's remarks on the *nimia diligentia* of accoucheurs. In his own immediate practice, he had never had a death from post-partum hemorrhage, but had had ample opportunities of confirming the remarks referred to. He had seen in consultation, and been otherwise connected with, many cases of death from post-partum hemorrhage. Then he might make a curious remark, that his impression was, that within the last ten years he had known nearly as many deaths from the hemorrhage of fibrous tumours as from post-partum flooding. In some quarters fatal post-partum hemorrhage seemed to be common, and imminent danger of it still more so. This supposed commonness, Dr. D. believed, was a result of unsoundness of judgment. In the Maternity Hospital here he believed a death from post-partum hemorrhage had never occurred.

The only remark Dr. D. would make, having special reference to Dr. Connel's case, was one to which he attached much importance. It was that, in his (Dr.

D.'s opinion, it was not an uncomplicated or frank case of death from post-partum hemorrhage. With a view to the statement of his opinion, he would name two important complications—namely, first, the tendency to dangerous or fatal swooning or syncope, apart from loss of blood, but in the cases under discussion evoked by parturition, and even a very slight loss, such as under ordinary circumstances would attract no special attention, and, second, previous weakening by disease, loss of blood, or the sickness of pregnancy, predisposing to fatal syncope from slight losses of blood. It was only an opinion, yet one founded on considerable experience, that a majority of fatal cases of post-partum hemorrhage belonged to one or other of these two categories, and were not simple or frank cases of post-partum hemorrhage, where the loss caused death of women previously healthy and strong, by its great amount.

He, Dr. D., had a vivid recollection of two cases of the former complication. They occurred, as it happened, in healthy young women of splendid physique, and with abundant health, but with a tendency to alarming faintings. In one of them it occurred twice, in her first two deliveries, both under the influence of chloroform. The indications of impending death were so marked in these deliveries, and in the other case, that, with his sanction, the nurse went to call the husband and warn him of the almost certain direful event. In the first case referred to, there were several subsequent successful deliveries without chloroform, one of them with ether as an anæsthetic. The loss in these three deliveries was inconsiderable in measured amount, and was soon completely stopped. Recovery took place under the influence of brandy, administered in moderate doses.

When Dr. Connel was reading his paper, Dr. D. was struck by the account of the suffering of the patient, for many weeks before her confinement, from sickness and vomiting—a condition which must have greatly weakened her, and was described as doing so. The case was an example of the second complication, to which Dr. D. had alluded, and it recalled to him several cases which he had seen or been consulted in. The first case of sudden death from post-partum hemorrhage which he had witnessed, was of this description. An elderly woman, the mother of a large family, suffered intensely from morning sickness before her confinement. The delivery was easy and natural. There was little, very little, loss of blood, but it produced fainting. When he arrived no hemorrhage was going on, but a small clot was in the uterus. It was easily squeezed out, and the hemorrhage was stopped, but the woman died before it was possible to do anything further for her than administer brandy. Another case of this kind occurred in a patient, about whose frequent losses of blood during pregnancy he had been repeatedly consulted by a Morayshire practitioner. He recommended the induction of premature labour, but it was delayed and delayed, and at last labour supervened. The delivery was natural, and all was right till after the woman was bound up, and the practitioner had left the room. The nurse, observing a little discharge of blood, recalled the doctor, whose efforts, however, proved vain. In this case, he had received two telegrams in an inverted order. The first was, "Mrs. L. is dead." The second was to the effect, "Come by first train to Mrs. L.!" Another case, in the sister of an esteemed medical brother, he need not mention, for it had a very close resemblance to that last described. It was among this second class of cases that Dr. D. would place the case of Dr. Connel. No doubt, a great part of the cases of grave post-partum hemorrhage were uncomplicated, and it was his belief that a very great majority of such cases got well completely, or merely suffered subsequently from more or less permanent anæmia. It was a very common thing to hear accoucheurs talk of cases of tremendous loss with no permanent evil results. It was Dr. D.'s experience that in most fatal cases little blood—in measured amount—was lost. He very well remembered a case to which he was called by Dr. Craig of Ratho many years ago. About 7 A. M. there had been a considerable loss of blood at the commencement of labour, and before the arrival of Dr. Craig, who found the patient anæmic, and feeling faint. Dr. D. reached the patient soon after noon. The patient was spontaneously delivered about 5 P. M. From the time of Dr. Craig's arrival till delivery, no blood was lost, and the patient had recovered entirely from the

feelings and indications of faintness. Danger was anticipated from swooning after confinement. When the baby was born, the mother triumphantly declared herself safe and feeling well. The placenta came away as in an ordinary case, and with a loss trifling in measured amount, certainly not above three ounces. The patient was still well; but soon she swooned and swooned again, and died about an hour after the birth of the child, in spite of our best efforts to maintain life.

Whether the post-partum loss was complicated or not, it was supremely desirable to have means of quickly stopping it, and the question of the value of perchloride of iron, which Dr. Connel raised, was one of great interest. Dr. D. was sure that all would be delighted if the sanguine anticipations of Dr. Barnes were realized, for in the treatment of such cases the arrest of the bleeding was the primary, though not the only, indication. Some practitioners quite forgot this, as Dr. D. could testify from experience, having found cases treated by the means of arresting hemorrhage after it had long quite ceased, and while only other indications remained to be fulfilled.

The flooding whose arrestment we were now considering was not from small vessels or an oozing surface, not from any source of spurious post-partum flooding—a kind which was not very rare—but from large vessels, the open sinuses on the surface to which the placenta had recently been adhering. It was the arrestment by a styptic of bleeding from large vessels that we were asked to admit. The arrestment was generally described as the result of a styptic action of the remedy, clots in the sinuses being produced.

Before considering the arrestment of ordinary post-partum flooding by a styptic such as perchloride of iron, Dr. D. would say a few words as to the styptic action of this remedy in ordinary bleedings from small vessels. Such were often grave and dangerous. Among them he might mention bleeding post-partum from the lacerated cervix uteri, from the lacerated perineum, from the gums after tooth-extraction, from leech-bites. In such cases as these, styptics were sometimes efficacious, but every practitioner knew how frequently they were useless. Perchloride of iron had been often used in vain to arrest such comparatively slight bleedings, and it was to be remarked, that success in such cases might far more naturally be expected from its styptic action than in cases of ordinary post-partum flooding.

Dr. D. fancied that surgeons would not expect an efficient styptic action from perchloride of iron in bleeding from such an anatomical source as that of post-partum flooding; but truly they had no bleedings closely analogous to deal with. The nearest to it—which Dr. D. knew well—was the copious oozing from the stump of a lupus mass excised from the pudenda, or of a malignant tumour removed from the same part, or of a cauliflower excrescence.

Now in many such cases in which he had used perchloride of iron, he had found its styptic virtues to be of no avail. It was only in some that it appeared to be followed by a diminution of hemorrhage.

In gynæcological practice Dr. D. had found this styptic, used locally, to be very valuable in cases of metrorrhagia, especially where there was a uterine fibroid causing it or keeping it up. In some analogous obstetrical cases he had found it of use, as in continued bloody losses after abortion. He remembered well a very successful application of this drug many years ago, when the remedy was little heard of. He was called to Dumfriesshire, by Dr. Borthwick, to a young woman who had recently aborted in an early month, and who, after continuously losing blood for many days, was, when he saw her, very exsanguine and in a most alarming and dangerous condition. The solution of perchloride of iron, locally applied, arrested the loss and apparently saved life.

The bearing of these remarks was evident—namely, that he did not, from his knowledge and experience in the use of the perchloride, expect much from its styptic action in post-partum flooding. But our knowledge of the matter was not nearly sufficient for the settlement of it by *a priori* reasoning. Direct experience must be the criterion. Besides, he had said nothing of the possible, nay probable indirect action of the remedy by inducing uterine contraction. Ordinary post-partum flooding was not of a kind on which he would expect

any mere styptic to have much effect. Till now styptics had never been relied on, and he, Dr. D., judging from all he knew or had read, did not place reliance on them even now.

Uterine contraction, and this alone, was the paramount means of arresting uterine hemorrhage that we could call into action. To call this into action by physical irritation of the muscular fibres of the uterus by kneading and compression, was the quickest and most efficient remedy. A slower means was a dose of ergot, and this had been said to have its action much accelerated by using ergotin instead of ergot, and injecting it hypodermically. These were, in Dr. D.'s opinion, worth all other remedies combined, and all he had read of the perchloride of iron injection did not make him think it so useful as kneading and compression of the uterus, and ergot administered internally. No doubt we were now always hearing and reading of cases where the injection was said certainly to have saved life; but Dr. D. did not admit the truth of this. It might be true or it might not. There was no way of proving the positive, for every one of experience in losses of blood, whether post-partum or under other circumstances, knew very well that if the patient only survived the arrest of the hemorrhage, such patient had a good chance of altogether surviving, however alarming and excessive the anæmia and faintness were. Dr. D. would add that, when the bleeding was stopped, such cases seemed to get on best when almost completely let alone, or got a little brandy.

It was as much from reading the cases of so-called success as those of failure, that Dr. D. had been unable to arrive at a favourable conclusion as to the utility of the iron injection. It was well known that some eminent men—especially Snow Beck—strongly opposed its use, and cited cases where the remedy had apparently caused great evil. But Dr. D. did not think these histories sufficient to deter the opposite party, who believed in the value of the remedy, from still further experimenting with it, and attempting to realize their sanguine and generous hopes.

For his own part, Dr. D. said, both theory and extensive experience led him to rely for hæmostasis in these desperate cases, chiefly, though not exclusively, on uterine contraction. To induce and maintain uterine contraction, he would meantime continue to prefer kneading and compression of the uterus, and ergot of rye or ergotin hypodermically used. Not till after these had failed, and till he felt willing to try a doubtful experiment, would he, and then only reluctantly, resort to iron injection. If he ever did this, he would look for advantage from the injection acting as an excitant of muscular contraction, not as a local styptic.

On Chloroform in Natural Deliveries.

Professor PAJOT, while discussing Dr. C. J. Campbell's work, of which an analysis was given in the *Bulletin de Thérapeutique*, vol. lxxxvi. p. 234, comes to the following conclusions. The place of chloroform in obstetrics is now definitively settled. No practitioner would hesitate to use it with all indispensable precautions in cases of painful operations or abnormal though spontaneous deliveries, unless there be indications to the contrary. True anæsthesia, however, when used in natural deliveries during the periods of uterine and vulvular dilatation, is a serious and scientific process which admits of discussion; its dangers and inconveniences appearing to exceed its advantages in the opinions of some persons, though there are arguments for the opposite view and it is capable of defence. As to the so-termed semi-anæsthesia, it is a practice as useless as it is harmless, and has no scientific or serious value whatsoever. Such are the opinions of M. Pajot, who, in the *Annales de Gynécologie* for January 15, 1875, likewise attacks some passages in Dr. C. J. Campbell's memoir.—*London Med. Record*, March 10, 1875.

On the Meaning of Subperitoneal Ante-Uterine Emphysema at Delivery.

At a meeting of the Berlin Obstetrical Society, Herr LOHLEIN related a case which occurred in the Klinik in the year 1873. The woman was thirty-five

years old, in labour with her third child; former confinements had been difficult. There was a universally small pelvis; labour was very protracted. Incisions of the os were made, and vaginal injections used. There was ante-uterine emphysema. Perforation of the head and cephalotripsy were performed; the result was fatal. The necropsy showed subperitoneal ante-uterine emphysema, complete attrition of the posterior wall of the cervix, and a perforation of the posterior wall of the bladder. Dr. Löhlein very fully described this specimen, particularly the origin of the emphysema, and coupled with it an observation made in the Poliklinik on a female aged thirty-one, in labour with her fourth child, with a middle-sized pelvis. Various attempts were made with the forceps, which slipped off. There was superficial laceration of the vagina, and tearing of the os. The child was hydrocephalic. Perforation was performed, and followed with cephalotripsy, on account of the extraordinary hardness of the cranial bones. Death took place on the tenth day, with symptoms of peritonitis. A necropsy was not permitted.

In the discussion which followed, Herr FASBENDER reported a case as an addition to Löhlein's, where he had discovered crepitation through the abdominal parietes in decomposition of the fœtus. It happened in a woman who had been plugged for some days for placenta prævia. The phenomenon was to be distinctly made out through the abdominal walls; and upon extraction of the child by version, there was found to be emphysematous decomposition of the whole of the covering of the child. The crepitation entirely disappeared upon the birth of the fœtus.

Herr EBELL related that a similar phenomenon, detectable by palpation, was mentioned by Von Olshausen after the entry of air into the veins of the uterus.

Herr E. MARTIN saw a case in a woman who had been catheterized by a midwife, with a straight instrument. When she was admitted into the hospital an ante-uterine emphysema was recognizable on the right side and towards the middle. The fœtus was removed by the forceps. The patient died in a few days; and a necropsy showed a perforation of the posterior wall of the uterus and an infiltration of pus into the right side of the ante-uterine connective tissue. This and Herr Löhlein's case were the only instances he had ever met with of ante-uterine emphysema, out of a great number of instances of rupture of the uterus; consequently he could accord to this symptom only a low diagnostic value.—*London Medical Record*, March 31, 1875.

On Vesico-Vaginal Fistula cured by Cauterization.

After referring to the successes of Bezzi of Modena, Galeus, and Cantermann, VAN WETTER and DENEFFE (*Annales de la Société de Médecine de Gand*) give their own case as a more modest success, in consequence of the number of times it required cauterizing and the smallness of the fistula; but they place it, nevertheless, as one among many proving the truth of M. Soutart's words "cauterization cures vesico-vaginal fistulæ."

In Nov. 1870, E. von C., aged twenty-five, was delivered of a large child; and, the labour not progressing very well, an ignorant woman used instruments, with the result of the immediate escape of urine from the vagina, of which the patient was conscious. The quantity of urine escaping was at first so great that none passed by the urethra; but gradually improvement took place, though urine still ran constantly away. In 1872 she saw Dr. Deneffe, and it was proposed to cure by means of cauterization and the use of uniting forceps; but her friends frightened her out of submitting to the operation.

In 1873 she entered the service of a lady at Ghent, who was a patient of Dr. Van Wetter, and he persuaded her to submit to cauterization. At the time the treatment was commenced her thighs, etc., were much excoriated with the constant dribbling. The fistula was situated in the anterior cul-de-sac, *i. e.*, behind the anterior lip of the cervix; it was about six or seven millimetres in diameter. The urine flowed from it drop by drop, except when the patient exerted herself at all, and then it jetted out.

The treatment was commenced by cauterizing the parts surrounding the opening with sulphuric acid and water, equal parts, applied with an asbestos

brush, the application being repeated every fortnight; the fistula gradually contracted until the end of September, when it was less than half its original size, and the patient lost hardly any urine when sitting, and little when lying down; but still a good deal when moving about. A solution of chromic acid and water, equal parts, was now substituted, and used for two months with marked improvement; but the fistula was not cured, and the sulphuric acid solution was again used. Sometimes she was almost dry for a fortnight, and then worse again; being better always just before menstruation. This was the state all through the summer; and at last the fistula could hardly be distinguished. They then applied a finely-pointed stick of nitrate of silver to the fistulous track, and painted caustic potash freely on to the vaginal wall round the fistula. This process having been repeated till August 16, the patient announced that she had been hardly damp for the last fortnight; and the fistulous opening was found to be so small that the nitrate of silver could not be introduced, therefore the caustic potash alone was applied round about. And again on August 30, and September 13 and 27, she declared herself well; and the speculum, when introduced, remained dry. She was seen again in October and November, and had continued well. The cure was thus completed in twenty-eight sittings, extending over fourteen months.

The authors, in remarking on the case, dwell much on the escape from a dangerous and bloody operation, and on the fact that the patient was able to do her work all the time and suffered little. They speak of the great danger of Sims's operation when the fistula is in the anterior vaginal wall (peritoneal zone), and the difficulty when the fistula is deeply seated; also of the dread many patients have of the knife. In conclusion, they urge the general adoption of this plan, and allude to its being within the reach of every medical man, and requiring but few and simple instruments.

[Doubtless there are cases where this plan might be valuable; but Mr. J. KNOWLSEY THORNTON thinks that the majority of patients would prefer a slight confinement to bed, and the small danger of Sims's operation, to such a tedious cure as that arrived at in the case related.]—*London Med. Record*, March 31, 1875.

On a Case of Dissecting Phlegmonous Perivaginitis.

At a recent meeting of the Turin Medical and Surgical Society (*Gazetta delle Cliniche*, February 2, 1875) Professor BIZZAZERO related a case of dissecting phlegmonous perivaginitis, accompanied with prolapse of the vagina and of the vaginal portion of the cervix uteri, and ending in recovery.

The patient was a woman aged thirty-eight, of fairly good physical constitution; she had had sexual intercourse rarely, and had never suffered from leucorrhœa. On her admission into hospital under the care of Professor TIMERMANS (in February, 1869), her most prominent symptoms were: Temperature, 104° Fahr.; pulse, 96; headache; symptoms of bronchial catarrh; ardent thirst; loss of appetite; constipation; and pain in the lower part of the abdomen. These symptoms lasted several days, and to them was added difficulty in micturition, which rendered the use of the catheter necessary. On the tenth day after admission she had ardor urinæ and tenesmus; there were superficial abrasions on the labia majora and minora, extending to the orifice of the vulva; the contact of the urine with these parts produced very acute pain. On the twelfth day, while she was being examined, there escaped from the vaginal cavity a body which, on examination, Dr. Bizzazero recognized as the vagina itself with the vaginal portion of the cervix uteri. It had the form of a sac (the vagina), the fundus of which was thickened (vaginal portion of the uterus) and perforated (external os uteri). Towards the outlet the walls were thin. The outline of the sac was rather irregular. The vaginal portion of the neck of the uterus was separated from the vagina for about half its circumference. The external surface was rugose, rather soft and spongy; the inner surface was smoother and more compact, though somewhat irregular. On microscopic examination it was found that the connective stroma of the part was in good preservation. The vessels were partly empty, partly distended with red matter

derived from the decomposition of blood, which presented masses of vibriones and bacteria. The latter were also found in great abundance in the loose perivaginal connective tissue, more scantily in that which formed the stroma of the vagina. All trace of vaginal epithelium had disappeared. In the mucous membrane of the vaginal portion of the neck of the uterus there could still be discerned the large vessels running perpendicularly to the surface of the membrane, as described by Hæmle.

This elimination of the parts was followed by extensive perimetritis. Gradually, however, the patient's condition improved; the discharge diminished and became less offensive; and a month after admission the patient left the hospital. Two months later the ostium vaginae was found to be normal; there was little vaginal discharge. The finger reached the cervix uteri with much difficulty after passing through a hard resistant fibrous ring like a hymen. With the speculum this ring could be seen to lie before the cervix. No mucous or purulent discharge was observed. An attempt was made to procure dilatation by the use of prepared sponge; it promised at first a favourable result, but had to be desisted from on account of an attack of acute arthritis.

Dr. Bizzozero says that there are only three recorded cases of this malady; two, by Marconnet of Moscow, ending in recovery; and one, by Menkenitsch of Tiflis, which terminated fatally.—*London Med. Record*, Dec. 24, 1875.

Uterine Fibroid Tumours.

A paper on this subject by M. TILLAUX, relating some unusual cases, gave rise to an interesting discussion (reported in the *Gaz. des Hôp.*, January 5, 7, and 9) at the Société de Chirurgie.

M. Tillaux observed that cases of small uterine fibroids are met with, which, in consequence of their passing out of the cavity of the uterus and spontaneously re-entering it, give rise to great divergence of opinion among surgeons who have to examine such patients at different periods. He recently met with such a case at the Lariboisière, in which a fibroid body, the size of a walnut, that had been detected external to the cervix, had entirely disappeared next day when the patient was brought into the theatre for its removal. These tumours pass out of the cavity of the uterus, especially at the menstrual periods. Another case exhibited a still more curious variety. A patient, who a year before had a pedicellated fibroid polypus successfully removed, applied with symptoms denoting a recurrence of the disease. The uterus was most carefully examined with the hystéromètre, and pronounced to be of normal dimensions, and absolutely free of any growth. A few days after, a tumour, the size of an egg, was found to be filling the vagina. M. Tillaux believes that the tumour at the time of the first exploration was situated within the walls of the uterus beneath the mucous membrane in the vicinity of the cervix. Under the influence of uterine contraction induced by a plug which he had applied, it was suddenly expelled from the uterine cavity. It was easily removed. A third case terminated fatally in consequence of a misadventure in the operation. It was an example of one of those rare cases of enormous fibroid which are difficult to deal with. It mounted up above the umbilicus, and projected into the vulva, inducing great metrorrhagia, and causing at the menstrual periods expulsive pains analogous to those of childbirth. It filled the entire cavity of the uterus, so that the finger could not be introduced, nor the point of implantation ascertained. While manipulating it with the forceps prior to removal, the tumour was expelled, the perineum yielding to very moderate traction. The tumour was sessile and intimately connected with the fibres of the uterus at its fundus; and the éraseur having been applied after an incision had been made into the tumour, this was rapidly separated, bringing away with it a portion of the fundus of the uterus. The patient died of peritonitis forty-eight hours after the operation. The lesson which M. Tillaux draws from his case is, that, useful as the éraseur is for the removal of pedicellated uterine tumours, it ought not to be used for those that are sessile, which should be detached layer by layer by means of a bistoury.

M. TARNIER observed that intermittent polypi have been noticed by all surgeons; but with respect to M. Tillaux's second case, he believed that it had been ill observed in consequence of the hystéromètre having been used instead of the uterine sound. It is inexplicable that a sessile growth should be so rapidly transformed into a pedicellated one. M. DUPLAY considered the exploration of the uterus much more difficult than that of the bladder. With respect to the removal of large fibroid tumours, he thinks that traction should be avoided as much as possible, the point of implantation of the tumour being sought for by removing it portion by portion. M. GUÉNIOT related a case which occurred in his own practice. Immediately after the removal of a fibroid tumour the size of an orange, another projection presented itself at the orifice, giving rise to a doubt whether this was another fibroid or the fundus of the inverted uterus. The diagnosis was made by means of acupuncture, under the conviction that, if the tumour were a fibroid, sensation would be absent, while resistance would be considerable. The tumour was removed, and the patient recovered. M. Guéniot does not consider it dangerous to leave in the uterus a portion of a fibroid tumour, as it in general becomes disorganized without producing much inconvenience. M. GUYOX agreed in this opinion, providing that the tumour be pedicellated. Large fibroid tumours, he added, may of themselves induce inversion, and it is in such cases that the écraseur would prove especially dangerous. M. HERVEZ DE CHÉGOIN observed that the extirpation of these tumours is a work of prolonged patience, which is best brought about by the use of temporary ligatures, the final extirpation taking place at the end of several months. It is, in fact, a prolonged accouchement which he has never seen end fatally. With intra-uterine fibroids he does not meddle. M. POLAILLON prefers for the removal of these bodies the *serre-nœud* of Maison-neuve, which divides at the place where it is applied far better than the chain of the écraseur. It is also the only possible instrument that can be applied in cases in which polypi cannot be attacked by the bistoury, in women become anæmic from hemorrhage, and unable to bear any further loss of blood. M. BLOR felt astonished at the preference given by M. Polailion to the *serre-nœud* over the écraseur on the ground of the latter producing hemorrhage. In his opinion these bodies can be detached from the uterus by the fingers, just as an adherent placenta is detached. The patient waiting recommended by M. Hervez is often rendered impossible, owing to excessive hemorrhages and consequent anæmia. The best mode of operating consists in segmentation of the fibroid body, followed by its enucleation with the fingers.—*Med. Times and Gazette*, Feb. 13, 1875.

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On a Case of Interstitial Cystic Sarcoma of the Uterus, Mistaken for Ovarian Tumour.

Dr. CREMONESI relates the following rare case in the *Archivio di Medicina, Chirurgia, de Igine*, November and December, 1874 (*Gazzetta delle Cliniche*, February 2).

A. P., aged fifty-two, mother of a large family, had ceased to menstruate for three years, and during that time had been subject to nervous disturbances such as accompany pregnancy. The abdomen increased in size; two or three months after the last catamenia, she had an attack of metrorrhagia; and after that, the loss of blood from the uterus recurred at irregular intervals, became in course of time more frequent and abundant, and reduced the patient to a deplorable condition.

When admitted into hospital, under Professor Laurenti, on August 7, 1874, she had a large abdominal tumour, extending from the pubes to above the umbilicus. It projected most at the umbilical and right epicolic region, was elastic, and slightly painful on pressure; on palpation, it was found to contain fluid; on percussion a sharp sound was heard; and auscultation revealed a souffle isochronous with the pulse. A sound introduced into the uterus did not pass beyond 0.8 to 1.2 inches. Dr. Laurenti believed that the case was probably one of ovarian cyst. A puncture gave exit to about a pint and a half of liquid. The abdomen became smaller, but the tumour did not disappear. It was then

believed that the cyst was multilocular, and ovariectomy was decided on. The next day, however, the abdomen had become as large as before; vomiting and diarrhœa set in, the metrorrhagia became more profuse, and the patient died on August 17.

At the necropsy, the ovaries were found to be healthy; the tumour was uterine. The cervical portion of the uterus was dilated and elongated; the cavity of the organ was much distended, and the thickness of the walls gradually diminished from below upwards, being at last only four or five millimètres (0.16 to 0.2 inch). It appeared as if the uterine cavity was completely divided into two unequal parts by a horizontal septum, formed by the detachment of some of the more internal muscular strata of the uterus. The upper portion was the larger, and formed about three-fourths of the whole. The lower portion, which represented the true uterine cavity, was covered with mucous membrane and communicated with the cervical canal. In the upper cavity was a new growth, arising from various points of the wall, and of different forms and sizes in its various parts. To the right of the cavity was a cylindroid mass, free, and about $5\frac{1}{2}$ inches long, and another mass was united to the wall on the left side by a very slender pedicle. The portion of the cavity not occupied by the tumour contained a yellow albuminous liquid, like that which had been removed by puncture.

Microscopic examination showed that the tumour was a sarcoma developed in the uterine walls.—*London Med. Record*, March 10, 1875.

On Carcinoma of the Fundus Uteri.

Herr GOLDSCHMIDT reported four cases of carcinoma of the fundus uteri at the Obstetrical Society of Berlin, meeting on March 24, 1874 (*Berliner Klinische Wochenschrift*, No. 52, 1874). The diagnosis of this complaint is rendered difficult, from its being accompanied through its various stages with symptoms which belong also to other uterine ailments, and added to that the rarity of carcinoma of the fundus may easily lead it to be mistaken for the other affections. It is complicated with discharges, swellings, alterations of position, and inflammations in the neighbourhood. A microscopical examination of the discharges might frequently aid the diagnosis.

The first case was that of a sterile woman, aged forty-two, who had suffered in the lower part of the abdomen for six years. She was first seen by Herr Goldschmidt for symptoms of obstinate constipation, with signs of ileus. An examination discovered that the rectum was completely compressed by the uterus, was changed into a strong hard tumour of the size of a fist. Injections *per rectum* had no effect; and it was only after division of the sphincter and the introduction of the whole hand, and pushing the uterus forwards and replacing a fold of mucous membrane that had become displaced above it, that complete emptying of the bowels took place. After that, the operation had to be frequently repeated. At the end of a year, when the case was related, canceroid degeneration had appeared in the vaginal portion of the uterus in the vagina; the fundal tumour was probably the starting-point of the disease.

In a second case there was also enlargement and compression of the rectum; cancer-cells were found in the discharges. A third case was seen just before death. The rectum was compressed in the same way; and the necropsy showed carcinoma of the fundus, of the abdominal parietes, and of the ovaries. In a fourth instance, beyond a fetid discharge and some erosion, nothing was to be found in the uterus; nevertheless, the microscope showed cancer-cells in the discharge. Herr Wegscheider considered the diagnosis of cancer of the fundus extremely difficult, and that it had not been established in the three cases where the necropsy had not been made. He personally had only met with one case of cancer of the fundus, which was first discovered in the *post-mortem* examination. In this case there was a probability of its having passed from the bowel to the uterus.

Herr WERNICH found, in the cases described, a similarity with those of sarcoma recorded by Gusserow, Hegar, Spiegelberg, and Chrobak; and was dis-

posed to assume that Dr. Goldschmidt's were also cases of sarcoma. He himself had up to this time only met with one case.

Dr. Goldschmidt laid great stress on the microscopic results as a diagnosis.
—*London Med. Record*, March 10, 1875.

Medical Jurisprudence and Toxicology.

On the Action of Phosphorus.

In a series of articles in the *Mouvement Médical* (September and October, 1874) M. LABBÉE discusses the physiological action of phosphorus, with special reference to toxicology. The symptoms caused by the metalloid cannot be attributed to its direct action, for uncombined phosphorus, as Ranvier has shown, exerts no appreciable influence on living tissue. Again, the great variety of symptoms and *post-mortem* appearances in cases of phosphorus poisoning requires explanation. Lécorché's theory is the most satisfactory one which has hitherto been offered. He divides cases of poisoning by phosphorus into three groups, two of which are perfectly distinct, while the third includes mixed forms. 1. If phosphorus be swallowed during a meal, it undergoes oxidation in the alimentary canal. The resulting phosphoric acid is absorbed, and causes changes in the red corpuscles of the blood, attended by escape of their colouring matter, jaundice, hemorrhage, and steatosis of various organs. 2. When phosphorus is taken on an empty stomach, phosphoretted hydrogen is produced, partly in the bowel, partly in the blood. The symptoms are almost purely nervous, such as acceleration of the pulse, marked fall of temperature, and convulsions; no jaundice or hemorrhage occurs; the alimentary canal and the viscera are intact, and yet death ensues very speedily. 3. Sometimes, when phosphorus is taken on an empty stomach, the primary symptoms due to absorption of phosphoretted hydrogen are followed by those which are characteristic of poisoning by phosphoric acid. This must be attributed to the prolonged survival of the patient; there is time for the phosphoretted hydrogen in the blood to become converted into phosphoric acid, the effects of the latter compound being superinduced upon those of the former.

M. Labbée proceeds to insist on the superiority of the evidence furnished by morbid anatomy over that derived from chemical analysis in cases of suspected poisoning by phosphorus. The Society of Legal Medicine was requested, by a French tribunal, to decide whether an expert might legitimately infer poisoning by phosphorus from the presence of abnormal quantities of phosphoric acid or phosphates in the matters submitted to analysis, and this in the absence of any trace of free phosphorus, and of the characteristic structural lesions. The question, as might have been anticipated, was answered in the negative.

Personne's method of treatment is next alluded to. He found that the oxidation of phosphorus was prevented by essence of turpentine. Several cases of recovery, after considerable quantities of phosphorus had been swallowed, have been ascribed to the use of this antidote; but Depaire, in his report on this subject to the Belgian Academy of Medicine (April, 1874) asserts that turpentine failed to arrest, or even to modify, the symptoms and anatomical changes due to phosphorus-poisoning in dogs. Labbée accordingly concludes that it would be unwise to trifle with a remedy of doubtful value, and recommends the practitioner to rely on emetics, especially on sulphate of copper, in his treatment of these cases.—*London Med. Record*, March 31, 1875.

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(For List of Contents see last page.)

JUNE, 1875.

Anatomy and Physiology.

Defective Corpus Callosum.

Mr. D. N. KNOX, Demonstrator of Anatomy in the University of Glasgow, reports (*Glasgow Med. Journ.*, April, 1875) a case of this in which the idiocy was of a low type. The patient could not articulate, but often screamed loudly without apparent cause. She never showed any recognition of any one. Her head was of average size, but misshapen, the occiput being very flat and the brow very low. The corpus callosum appeared to be wholly wanting, or only represented by a very slight ridge which anteriorly was scarcely perceptible, but posteriorly was about 1-10th of an inch in depth. Mr. Knox collects the reports of all the similar cases he could find in which the mental condition was recorded, with a view to determine, if possible, how far the mental defect was due to the visible brain defect; and from a careful study of fifteen cases he concludes, first, that in those cases in which the commissure system is wholly wanting or very rudimentary, idiocy or imbecility prevails; and second, in those in which the corpus callosum is only partially defective, while the other commissures are present, intelligence but slightly below the average, together with dulness or levity, melancholy, or perhaps childishness are the usual mental characteristics.

On the Respiration of Muscle.

B. DANILEWSKY (*Centralblatt für die Medicin. Wissenschaften*, No. 46, 1874) has investigated this subject in Sczelkow's laboratory. It is a well-established fact, that muscular activity causes an increased consumption of oxygen in the muscles. As to the significance of this fact, physiologists differ in their opinions (Hermann and Ranke). The absorption of oxygen, as well as the excretion of carbonic acid, both of the active and passive muscles (gastrocnemii of a frog), at different temperatures, were carefully measured by means of a special apparatus devised for this purpose. The muscles were weighted with one gramme. From a table of the gas-analyses, which were conducted after the method of Bunsen, he arrived at the following results.

1. The quantity of carbonic acid excreted by a tetanized muscle, in comparison with that by a passively moved one, is smaller, the higher the temperature.

2. The absorption of oxygen by the active muscle always remains behind that of the passively moved one. It may, therefore, be concluded that this does not stand in direct connection with the process of muscular contraction. This is explained by the unequally greater contact of the passively moved muscle with new air than in the tetanized one. The increased absorption of oxygen by the passively moved muscle produces almost no corresponding increase in the excretion of carbonic acid. One must, therefore, assume that both factors in the respiration are, within certain limits, independent of each other; that muscle can take up a very large supply of oxygen and conceal it for a long time in its plasma without excreting it in the form of carbonic acid. The absorption of oxygen increases in active muscle with the temperature.—*London Med. Record*, Jan. 20, 1875.

Materia Medica and Therapeutics.

Monobromide of Camphor.

MR. ROBERT LAWSON, Pathologist and Assistant Medical Officer West Riding Lunatic Asylum, contributes to the *Practitioner* (April, 1875) another article on this subject.

"It will," he thinks, "be sufficiently evident by this time that the therapeutic value of the drug is not sufficient to entitle it to a place beside the many calmative and soporific medicines which are analogous to it. Many of these are certainly superior to the monobromide in the suppression of sensory, motor, and cerebral excitement, and none of them possess so many inherent bad qualities as a therapeutic agent. I have already sufficiently referred to the disadvantages arising from the insolubility of the drug, and the gastric irritation which, even though vomiting is not produced, is liable to result from its administration. In the hypodermic use of the drug it is an additional drawback that the viscid solution in glycerine and alcohol obstructs the syringe-needle either by clogging or by the formation of crystals during injection; and though the observation may appear a trivial one on paper, the circumstance is liable to cause great annoyance and inconvenience in practice. It is clear, in the face of this detrimental evidence, that, as the monobromide has not been advanced as a specific, its value can be established only by favourable comparison with drugs possessing analogous properties. By glancing briefly at the substances which are accepted as indubitably possessing the therapeutic features claimed for the medicine under consideration, it will be seen how far the latter falls short of the potency and fitness possessed by the former. Opium, chloral, cannabis indica, bromide of potassium, belladonna, hyoscyamus, conium, ergot of rye, valerian, assafoetida, and all diffusible stimulants, possess the capability of performing, either directly or indirectly, one or other of the many medicinal functions ascribed to the new drug. In several of them we have in a handy, soluble form, the means of producing sleep, uninterrupted by the vagaries of delusion or the promptings of repulsive hallucinations. In some of them we have medicines which are eminently narcotic, and still leave little or no trace of gastro-intestinal irritation. In both respects the monobromide of camphor is at fault, as the hypnotic condition induced by it is broken by the evident influence of painful subjective impressions, and the administration of it is apt to be followed by acute gastric catarrh and secondary impairment of tissue nutrition. In such conditions as are present in delirium tremens, hysteria, and other diseases affecting the sensory, kinetic, and intellectual centres, and generally associated with some concurrent disorder of the *primæ viæ*, there is no necessity for falling back upon a doubtful medicine for the production of a calmative effect. It is to be feared, perhaps, that the means already at our disposal for such a purpose have been too freely used when attention should have been more steadily directed to recuperative and radical measures. The same observations apply equally to chorea; and with regard to the suppression of convulsive seizures, it is difficult to imagine that monobromide of camphor will ever supersede chloral in procuring central exemption from peripheral or internal irritation; or that by its power of contracting vascular calibre it will take the place of bromide of potassium or ergot of rye in the endeavour to modify the blood-supply to irritated centres. Though there is no doubt that by virtue of its hypnotic properties monobromide of camphor may, when administered in sufficient quantities, produce sleep in insomnia, subdue emotional, sensory, and motor irritation in hysteria, control convulsions, and even overcome the excitement of delirium tremens, yet it is evident that the drug cannot operate with the certainty and safety which characterize the analogous action of other well-known and time-honoured medicines. If, in addition, the risk of exciting cutaneous inflammation by hypodermic, and gastric catarrh by oral administration be considered, it must be acknowledged that monobromide of camphor is an agent distinguished on the one hand by the absence of independent or special therapeutic value, and

on the other by the presence of several faults, from which many analogous and more potent substances are altogether exempt."

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On the part played by the Phosphates in Therapeutics.

At the meeting of the Paris Société de Thérapentique, on March 21, M. DUJARDIN-BEAUMETZ presented a report (*Bulletin Général de Thérapeutique*, April 15, 1875) on an essay by Dr. RÉXÉ BLACHE, based on cases of albuminuria and diphtheria in which phosphate of lime seemed to have been of great value. M. Blache is of opinion that albuminuria and diphtheria are two cachectic conditions having this point in common, that the albumen would have a tendency to eliminate itself in both diseases either by the urine or the surface of the inflamed mucous membrane. The action of phosphate of lime would consist in favouring the assimilation and the passage of this albumen in the form of cells and fibres of all kinds, and would then oppose itself to its elimination. Without stopping to consider M. Blache's theory, M. Dujardin-Beaumetz thus sets forth the state of the question of the influence of calcareous phosphates on the economy.

Owing to the progress of animal chemistry, it has been decided that all the constituent parts of the animal economy are composed of immediate principles, with which are sometimes associated mineral substances; these being alkaline phosphates (soda and potash), or earthy ones (lime and magnesia). As a result of these analyses certain laws have been established which it is important to know, and which may thus be summarized: 1. In all the constituent parts of the animal economy, the bones excepted, the proportion of alkali (soda and potash) is always four times more considerable than that of the earthy parts (lime and magnesia). 2. In the fluid portion the soda predominates; in the solid parts, the potash. 3. In the liquid portions, the alkalis are in larger proportions than the phosphoric acid; whilst in the solid portions the phosphoric acid prevails over the alkalis. These laws once known, it was then thought that the phosphates, thus forming part of all the constituent substances of our economy, became bodies indispensable to our existence; and Choissat's experiments seemed to give warrant for this view of the case. Since then, experiments, taken up again by Kämmerich, Voit, and other experimenters, have shown that the action of the phosphates had been much exaggerated, and that, as a rule, they only played the part of simple aliments. M. Dujardin-Beaumetz does not offer any decision on the question of the absolute necessity for phosphates. He thinks they are useful; but he asks himself, in the latter case, how may the dose of these phosphates be administered and increased? He then shows, by the precise experiments made in Germany, and of which M. Samson has given a very exact abstract (*Bulletin Gén. de Thérapeutique*, vol. lxxxvii.), and by M. Chéry-Lestage's memoir (*Ibid.* vol. lxxxvii.), that the only way of administering phosphates is to employ those which nature has already assimilated—bran-bread, and beans of different kinds. Whenever it has been wished to augment the dose of phosphate, by adding soluble or insoluble phosphates to the food of animals, these phosphates have only passed through the economy without effecting any lodgment there. However, beneficial results seem to have been obtained from soluble phosphates in certain affections; and these successes M. Dujardin-Beaumetz explains by the precipitation of insoluble phosphates, as M. Mialhe demonstrated a long time since, and M. Cauler at a later period (*Bulletin Gén. de Thérapeutique*, vol. lxxxvii.), and by the favourable action of hydrochloric and lactic acids on the digestion. As to the special cases pointed out by M. Blache, their explanation is rather to be found in the acid action of the soluble phosphates than in the phosphates themselves. Bright recommended acid treatment in chronic diseases of the kidneys a long time since.—*Lond. Med. Record*, April 28, 1875.

On Jaborandi as a Sialagogue.

Dr. CZERNICKI, in the *Gazette Hebdomadaire* of April 2, states that he had studied the effects of jaborandi on healthy subjects, and had recognized how greatly its influence as a sialagogue exceeded its sudorific power; he had always estimated the quantity of saliva secreted after a dose of five grammes at about a pint and a quarter. Circumstances gave him the opportunity of studying the therapeutic value of this remedy on several cases of mumps which occurred in the garrison of Luneville, where M. Czernicki was head of the medical staff. One of these cases was afterwards complicated with metastatic orchitis, and offered a good opportunity for making use of the action of jaborandi on the parotids to combat the metastasis. The success was complete.

The case is as follows: A brigadier, a vigorous and healthy man, was attacked by mumps on March 6. His face exhibited the characteristic disfigurement; the parotid regions were swollen, puffy, and painful; there was a moderate amount of fever, with headache and want of appetite; the mouth was dry, the saliva deficient; the movements of deglutition were painful. The general condition was good, and the patient was simply submitted to the usual dietetic and hygienic measures. On the 9th, the patient suddenly complained of an acute pain in the left testicle. On inspection the gland appeared enlarged; it was hot to the touch and very painful on pressure. Emollient applications and a laxative were ordered. The next day orchitis was perfectly established; the testicle was doubled in size and very painful. The skin was hot, the pulse rapid, and at the same time the parotid regions were manifestly reduced. An infusion of jaborandi was prescribed to be taken at once. The medicine was administered at 3 A. M. At a quarter past three, first sweating and then salivation came on, the flow of saliva into the mouth giving great relief. The salivation persisted all the morning, and the next day, when the patient was seen, he said that he felt much better, and that the testicle gave him scarcely any pain. In fact, the gland had become appreciably smaller; it could be touched and pressed without bringing on any acute pain. The parotids remained in the same condition very little swollen and almost without pain. The patient was left quiet, without any treatment. The next day every trace of orchitis had disappeared, the swelling of the parotids had also vanished, and on the day following the patient left the infirmary perfectly cured. M. Czernicki adds that he simply relates this fact without commentary. The presence of metastatic orchitis was incontestable, and no steps were taken in regard to it before the third day, when it was well established. The patient had neither varicocele, urethritis, nor anything which might have caused a complication; he had never had any trouble with the testicle nor underwent any traumatism. The gland had undergone an increase to nearly double its size, and in four-and-twenty hours it regained its normal condition.—*London Med. Record*, April 14, 1875.

On the Excitatory Action of the Disulphate of Quinia on the Muscular Fibres of the Uterus.

The following is an abstract of two letters from Dr. P. CASANOVA to Dr. Rossolo Grifflini, which appeared in the *Annali Universali di Medicina* for November, 1874. The observations he considered of interest, as bearing upon the doctrine of Dr. Monteverdi.

B. M., aged twenty-three, strong, had for five months been suffering from a kind of intermittent fever of the quotidian type, for which she had employed no remedies. She was first seen on February 12, 1874. A careful examination showed all the functions normal; no disease except a slight hepato-splenic engorgement, accompanied with a certain amount of pain. A saline purgative was given, to prepare the system for the reception of quinia, of which latter drug one gramme (15.5 grains) was ordered to be taken during the next two days, with the daily use of a decoction of taraxacum. The fever remained the same. Fearing lest there should be a disturbance of the regular

course of menstruation, of which the epoch was at hand, and believing that the flow would diminish or suppress the hepatico-splenic engorgement, Dr. Casanova resolved to delay applying leeches to the anus, as he had first intended to do, and gave small doses of quinia with sulphite of soda. Menstruation was, however, normal, and had no effect on the spleen and liver. The powders caused frequent nausea and alvine dejections, without at all changing the febrile state of the patient. Eight leeches were directed to be applied to the anus, which caused a free flow of blood, with the effect of removing the hepatico-splenic complication. A gramme and a half (23 grains) of quinia was divided into sixteen pills, with extract of cinchona, to be taken in four days. On the third day, after the patient had taken eight pills, the catamenia reappeared in normal quantity. The pills were continued. On the fourth day Dr. Casanova was suddenly summoned for an alarming menorrhagia, the woman having lost more in a few hours than she usually did during the whole period. The pulse was thready, and she had vertigo and was faint. Ice externally, and ergot and rhatany internally, were ordered; but it was found the next day that the loss of blood had ceased almost instantaneously without the use of any of these remedies. The four remaining pills were ordered to be taken, and seven and a half grains of quinia, divided into eight pills, to be taken in two days. The fever entirely left her, and the patient quite recovered.

Two principal considerations arise out of the preceding case.

1. The disulphate of quinia has neither any hæmostatic properties nor any stimulating effect upon the uterus, because the metrorrhagia showed itself after the patient had taken nearly seventeen grains. 2. If, in the present case, the patient had not been treated for ague, but, on the contrary, had been treated by quinia for the first time, immediately after the metrorrhagia, this remedy would have had all the honours of the cure, and it would not have been thought to be spontaneous and natural.

Being sceptical of Monteverdi's theory of the action of quinia as a hæmostatic and uterine excitant, Dr. Casanova has carefully noted any cases bearing upon the subject; the following is a second instance tending to prove the fallacy of the theory:—

Madame G. S., aged fifty, delicate, commenced to menstruate late, the discharge being at first scanty. Afterwards the catamenia became regular and abundant. In March (the author is writing in November), they became profuse, and lasted twenty days, followed by a continuous and excessive leucorrhœa, alternating with a bloody discharge that only ceased with the menstrual flow, which was very profuse. This condition continued without improvement until July, when Dr. Casanova was called in. Fifteen and a half grains of quinia were given in a dozen pills with extract of taraxacum. The pains and hemorrhage diminished the same night, after taking only four pills; the other six pills on the next day entirely removed every ache, and stopped the hemorrhage, and the patient was completely restored to health. No other remedy, not even a change in the patient's habits and mode of life, could be considered as contributing to the cure, which was permanent. Here the cure must be regarded as exclusively due to the quinia; the promptitude of its action and its efficacy being perfectly marvellous to the patient herself.—*Lond. Med. Record*, April 28, 1875.

Medicine.

On the Etiology of Typhoid Fever.

SIR WM. JENNER's presidential address to the Clinical Society (*Lancet* and *British Medical Journal*, Feb. 20) is so full of valuable observations and practical suggestions, that it is almost impossible to make a satisfactory abstract

of it. We content ourselves, therefore, with giving an abridgment of what is perhaps the most interesting part, viz., his remarks on the etiology of typhoid fever.

It is said by some that typhoid fever is undoubtedly contagious, and that, being contagious, it can never originate *de novo*; that is to say, as it can be proved in some cases to have its origin in the entrance of the emanations of the sick into the previously supposed healthy body, it can never arise in any other way. On the other side, while admitting that the disease may be spread by the emanations from those suffering from it, it is said that any admixture of sewage (decomposing animal excreta) with fluids used for drinking purposes, although no typhoid excreta are present, will produce typhoid fever *de novo*.

One general assumption made by those who advocate the sole origin of typhoid fever by contagion requires special consideration. It is this, that no admittedly contagious disease ever originates in any other way than by contact with the emanations from the sick, and therefore that typhoid fever, which spreads, as is generally admitted, by contagion, can be spread in no other way. Sir William Jenner says that his own prejudices are strongly in favour of the specific origin of this in common with all contagious diseases, but he thinks that the weight of evidence and of argument are rather on the other side. Of smallpox, for example, the most contagious of these diseases, we may fairly conclude that it never originates *de novo*. Sir William Jenner does not hesitate to say, notwithstanding Dr. W. Budd's assertion to the contrary, that it is rare that an isolated case of smallpox cannot, with due care, be traced to its probable source, and when a case has been imported into a locality previously free from the disease, new cases almost invariably spring up in its vicinity; so that the contagious origin is proved first by tracing the case to its source, and secondly from the new cases which spring up from the first isolated one.

But when we pass to the other end of this class of diseases, we find an unexpected difficulty in maintaining this theory of specific contagion. Diphtheria and erysipelas of the head and face are both undoubtedly contagious diseases, though much less contagious than smallpox; it is more common for the healthy who are exposed to the emanations from the sick to escape these diseases than to escape smallpox under the same circumstances. Now we should expect that the more contagious a disease—that is, the less the quantity of the poison needed, the shorter the time of exposure to the poison necessary, and the less preparation required in the system of the person receiving the poison—the more difficulty we should have in tracing it back to its primary source; whilst with the diseases of this class which are the least contagious—which require for their spread a longer exposure or more decided dose of the poison, or the administration of the poison in a particular way by a special channel, we should expect that we should more easily be able to trace every new case to its origin—that is, if every new case be really due to exposure to the emanations from the sick of the same disease. But this *à priori* reasoning does not agree with our experience; for, while in regard to smallpox it is the exception not to be able to trace the source of the contagion, in regard to diphtheria and erysipelas of the head and face it is exceptional that the first case can be traced back to contagion. Typhoid fever, like diphtheria and erysipelas, holds a low position as regards its contagious quality; the poison must be in large doses, or long breathed, or must be taken into the stomach in order to propagate the disease; therefore it ought to be possible, in the majority of cases, especially in country places and isolated houses, to trace this disease also to its source, if the source be in every case the excreta or emanations of those suffering from the disease. But, in fact, in a very large proportion of the solitary cases observed, it has not been possible thus to trace its origin; and not only so, but there are a sufficient number of cases recorded to make it probable that the admixture of sewage, not typhoid, with drinking-water, may produce the disease *de novo*, and most medical practitioners have met with cases in which the breathing of greatly diluted sewer-gas continuously for some time, especially at night, has also seemed to be able to produce typhoid fever *de novo*.

With reference to these three contagious diseases, which cannot in many

cases be traced to pre-existing cases of the same disease, there are three points worthy of notice. First, they are more liable than the most contagious, as smallpox, measles, and scarlet fever, to recur in the same individual. Secondly, when not referable to contagion, each is pretty constantly referred to one particular cause—diphtheria to exposure to cold; erysipelas to exposure to cold when the individual was depressed from fatigue, mental or moral causes, fasting, etc.; and typhoid fever to foul gaseous emanations or to contaminated water. Thirdly, certain primary constitutions seem more prone than others to suffer from these less contagious diseases; whilst all people seem to be susceptible when exposed to the poison of scarlet fever, of measles, or of smallpox, the other three diseases occur especially in certain constitutions. Diphtheria, for example, comparatively a rare disease, will occur in several members of the same family at long intervals of time, and in localities widely separated, thus showing a great constitutional proclivity to the disease.

In concluding this portion of his address, Sir William Jenner said: "I do not say, nor do I think, that the arguments and facts which can be adduced in favour of the origin *de novo* of any of the contagious diseases are conclusive; but I do say, and maintain, that they are strong enough to make us pause before we accept the theory advocated by Dr. William Budd, and to which Professor Tyndall has lent the weight of his great name, a weight, however, which would be greater on the point in question if he had himself studied the subject on which he has, I am sorry to say, addressed the public in a strain calculated to check unprejudiced individual inquiry. To my mind the question must be held to be still *sub judice*; new facts, sceptically scrutinized and carefully recorded, are required to settle it. It is only in exceptional instances that cases free from all possible, or at least from all probable, sources of error, can come under notice. Such cases can only be seen in private practice, and especially in country practice; and it is for this reason that I dwell particularly on this subject, my desire being to urge the careful observation and reporting of these isolated cases."—*London Med. Record*, March 10, 1875.

On the Use of the Cyanides in Articular Rheumatism.

Dr. LUTON, of Rheims (*Bulletin Général de Thérap.*, Jan. 15, 1875), although admitting the efficacy of colchicum, and of propylamine and trimethylamine in the treatment of acute rheumatism, points out certain inconveniences attending the employment of these remedies, and advocates the use of the cyanides in the disease in question. He was first induced to employ these salts in a case where he was unable to prescribe opium, and where bromide of potassium had failed. The patient was labouring under cerebral symptoms, and Dr. Luton, wishing to administer medicine without his knowledge, had recourse to the cyanide of zinc, which occurs as an inert powder insoluble in water, and easy of administration in any vehicle. Dr. Luton describes the effect produced as magical, for with ten centigrammes of the cyanide (a centigramme is the 100th part of about 15 English grains) refreshing sleep was obtained on the following night. On the daily continuance of the dose the symptoms disappeared as if by enchantment, and the patient was able to walk in a few days. The case, however, was rather one of gout than rheumatism, and at first Dr. Luton regarded the cyanide as a specific for the former malady, and employed it successfully in several cases; but a partial want of success in some instances, and failure in others, led him to extend the sphere of his observations and to try the effect of the salt on rheumatism. His success was here complete, and it was the more striking in proportion as the affection was more acute. He gives the history of ten cases, in all of which the success was very remarkable, and in one it was found that the temperature was distinctly reduced under the use of the cyanide.

The use of the cyanides in general has not been hitherto well established in medical practice, with the exception, of course, of prussic acid; although it appears that Prof. Brera, of Padua, employed this acid in several inflammations and in rheumatism. Among the cyanides specially employed by Dr. Luton are the cyanide of zinc and the cyanide of potassium. The first is easily taken in

pills or suspended in mucilage; it has no taste or smell, and may be given without the patient's knowledge. It seems to be dissolved in the gastric juice. The doses employed by Dr. Luton varied from five to ten, fifteen, and even twenty centigrammes. The cyanide of potassium might, perhaps, be the preferable drug by reason of its more evident action, but its taste is disagreeable, and the form of pill should be preferred for its administration. Dr. Luton has not exceeded the dose of fifteen centigrammes in the day, and sometimes he has been obliged to reduce the dose owing to the supervention of colic and vertigo. The physiological effects of the cyanides in medical doses are well marked, but in somewhat large doses they produce frontal headache, nausea, a little colic, and sometimes slight diarrhoea; but frequently the stomach is gently stimulated, the appetite is developed, and the digestion is improved. They exercise a certain amount of sedative influence and encourage sleep. In a therapeutical point of view Dr. Luton found that they relieve pain, and also diminish the redness and swelling of the affected parts in rheumatism. The action of the heart and pulse is lowered by their use, as when digitalis is employed, and the urine appears to be influenced in a critical manner, being always turbid when a notable improvement of the system appears. Dr. Luton considers it certain that the cyanides cure acute articular rheumatism in its original form and in its different transformations, and he thinks that they do so by shortening the duration of the disease and diminishing the risks of complications which are peculiar to it. They act rapidly, which is one great recommendation in any drug; the remedy is not disagreeable to take, and it is anodyne.—*Brit. and For. Med.-Chir. Review*, April, 1875.

On Trimethylamine in Rheumatism and Gout.

The February and March numbers of the *Practitioner* contain a long article on the value of trimethylamine in the treatment of rheumatism and gout, by Dr. W. H. SPENCER, physician to the Bristol Royal Infirmary. Trimethylamine is not a new remedy; Dr. Awenarius, a Russian physician, commended it to the notice of the profession twenty years ago as a cure for rheumatism, under the name of propylamine. He had treated with it 250 cases of rheumatism with remarkable success, and considered it little less than a specific. Since then it has, from time to time, been somewhat extensively used on the continent, and its value has been reported on by numerous clinical observers, but the opinions expressed have been most contradictory. The very different results obtained were probably due to the uncertain composition of the preparation which was employed. It was a liquid, of most nauseous odour and taste, which was obtained by the distillation of herring-brine; it contained, besides a variable quantity of trimethylamine, ammonia and ammoniacal compounds and a considerable amount of organic impurity—chiefly animal oil. In fact, it was ascertained by analysis, that the amount of the essential ingredient present in the solutions sold varied from two to fifty-five per cent. Within the last two years, however, the process of manufacture has been greatly improved; and, although chemically pure trimethylamine is not yet an article of commerce, still the solutions now sold are fairly uniform in composition, containing about twenty per cent. of the compound ammonia.

A so-called chloride of trimethylamine is also sold; it is really a mixture of that salt with chloride of ammonium, and, according to Dr. Spencer, is not as reliable in its effects as the solution.

Dr. Spencer has treated sixty cases of rheumatism and gout with these preparations with most satisfactory results; he gives brief notes of some twenty representative cases. He begins generally by giving from four to eight minims of the solution every two hours, gradually increasing the interval as the pains subside, which generally happens on the third or fourth day. Trimethylamine appears to be quite as beneficial in chronic cases of rheumatism and gout as in the more acute. Dr. Spencer relates the history of two patients who had been under treatment for months, and who were cured in three and five weeks respectively from the time when this remedy was prescribed; and they con-

tinued well for some months afterwards. In the acute cases also relapses seem to have been both rare and slight.

Trimethylamine in full doses sometimes causes headache, and occasionally, in delicate people, some gastric disturbance and even diarrhœa, but Dr. Spencer has not found these symptoms at all troublesome.

[This remedy has, as above stated, often been quite as favourably spoken of by other observers; it has held its ground in spite of obstacles for twenty years, and the fact that it has never become popular seems to be satisfactorily explained by the unreliable character of the preparation formerly employed. In its present improved state it seems certainly to deserve more attention than it has hitherto received at the hands of English hospital physicians.—J. W. LANGMORE, M.D.].—*London Med. Record*, March 31, 1875.

On Alcohol in Epilepsy.

Dr. DROUET has collected a number of cases of epilepsy occurring in drunkards, in whom no other cause for the epileptic attacks could be found than acute or chronic drunkenness. Of 442 male drunkards 45 were epileptic; of 87 female 9 were epileptic. Among drunkards below thirty, the proportion of epileptics was 1 in 15; between 30 and 50 it was 1 in 8. Epileptiform attacks very rarely occur in acute alcoholism. Drouet reports one case at length, but in that the fit occurred while the patient was at the guard-house, before he came under observation.

The cause of the attacks in acute alcoholism the author seeks partly in the idiosyncrasy of the patient; partly in the chemical change undergone by the alcohol in the organism—the transformation into oxalic or carbonic acid being more likely to cause convulsions than the others; and partly in the pathological change, the amount and position of cerebral congestion, and the occurrence of small cerebral hemorrhages. With regard to the influence of the nature of the liquid ingested, the author considers, in spite of the experiments of Dr. Magnan showing that alcohol never, and absinthe frequently, produces convulsions in the lower animals, that in the human subject alcohol is the main cause, and absinthe very rarely gives rise to epileptic seizures.

In chronic alcoholism convulsion most often follows an unusually great excess; sometimes it comes on in the course of continued intemperance, without there having been actual drunkenness or delirium tremens, and in other cases it attacks those who are debarred from drink in asylums, sometimes after long-continued abstinence.

Under the head of pathological anatomy many lesions are enumerated, none of which, the author is careful to say, can be considered characteristic.

The prognosis is not good. Of the 54 cases 3 died (two from causes foreign to the malady), 12 are considered incurable, and the rest recovered in periods varying from 1 month to 2 years.

The treatment was bromide of potassium or arseniate of soda, with abstinence from intoxicating drink and regular living.

[Epilepsy is a most difficult pathological problem. Alcoholic epilepsy must be an exceedingly difficult one. Great credit is due, then, to any one who takes pains in trying to clear up our difficulties on the subject. The above abstract of M. Drouet's paper will, we think, suffice to draw the attention of English readers to what he has written, and lead to a careful study of the original paper by those specially interested.].—*London Medical Record*, April 28, 1875.

On Telegraph Clerks' Cramp.

At the meeting of the French Society of Biology on March 20 (reported in the *Gazette des Hôpitaux* for March 23), M. ONIMS stated that he had observed in telegraph clerks similar phenomena to those described as writers' cramp, and which the *employés* themselves have named the telegraphic disease. He gave particulars of the case of one clerk who had been employed for the

last nineteen years in the telegraph office, and who began to feel symptoms of the disease ten years since. He first noticed that he could no longer clearly form the letters S, represented by three dots; I, represented by two dots; and U, represented by two dots and a stroke. He discovered at the same time he felt a certain stiffness, a kind of cramp, in the hand whilst forming these letters. The D, which is formed by a stroke followed by two dots, was much better represented than the U, which is formed inversely by two dots followed by a stroke. The clerk, observing this, then tried to make use of the thumb only to write the letters telegraphically, and followed this plan successfully for two years; but at the end of that time the thumb was in its turn attacked. He then employed the middle and first fingers, but in two months they became like the thumb. He then tried the wrist, which was eventually affected in the same way as the fingers. When he endeavoured to work, the whole hand and forearm trembled. Sometimes he suffered from sleeplessness and a little cerebral excitement.

These accidents only occurred with the Morse instrument, and M. Onimus thinks that if many of the *employés* are affected in a similar manner, the authorities should be asked to try some other telegraphic system — *London Med. Record*, April 14, 1875.

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Intracranial Aneurism, diagnosed during Life, in which Spontaneous Cure occurred, and the Patient lived eight years.

MR. JONATHAN HUTCHINSON read notes of this case before the Clinical Society of London (*British Med. Journal*, April 17, 1875). The patient, Mrs. S., first came under his care in March, 1861. She was then 40, thin, and extremely pale. For ten years or more, she had been subject to bad headaches. A year before coming under care, these became much worse, and were attended by severe throbbing in one temple, which sometimes lasted two or three days, and by a "beating under the ears." About the same time, her left eyelid drooped, and vision became dim in that eye. These symptoms persisted, and caused her to seek advice. On admission, there were on the left side complete paralysis of the external rectus, incomplete paralysis of the recti supplied by the third nerve and of the levator palpebræ; the papillary sphincter and ciliary muscle were paralyzed; the superior oblique was perfect. The dilator of the iris (vasomotor) was probably paralyzed on her admission, and certainly was so a fortnight later, when she also had some loss of sensation of the left side of her forehead. There was no reason to suspect syphilis. An intracranial *bruit* was heard on auscultation of the head. A few months later, all branches of the third nerve became completely paralyzed, the fourth still remaining perfect. There was now some implication of all the sensory divisions of the fifth nerve, but none of its branches were completely paralyzed. The facial nerve remained perfect. She remained during the succeeding ten years in much the same state, suffering at times from very severe internal headache, and, during the early part of the time, from throbbing. The fundus of the eye was healthy throughout; the other eye and orbital nerves were healthy. Aneurism of the internal carotid was diagnosed confidently by Mr. Hutchinson early in the case, and ligation of the carotid artery proposed, but deferred at the patient's urgent wish, expressed in consequence of a less confident opinion having been given by a colleague. The chief question was between aneurism and pulsating tumour. After this, the throbbing slowly subsided, the paralysis remaining; health improved somewhat, and the question of operation was abandoned. Vision of the eye remained tolerably good. In February, 1871, Mr. Hutchinson found a large pulsating tumour in the abdomen, which was confidently diagnosed as aneurismal; it was then of about six-months' duration. Its early progress had been accompanied by pain in the abdomen, pain in the left leg, constipation, and inability to take food. For some weeks, she was nourished solely by enemata. Death occurred early in May, 1871, she having had a large abscess in the left iliac fossa in connection with disease of bone from pressure of the aneurism. At the necropsy, a solid aneurismal tumour, of the size and shape of a bantam's egg, was found to occupy the inner part of the left middle fossa

of the skull. The internal carotid passed along its inner side, and a well defined smooth-edged aperture, as large as a No. 6 catheter, opened from the outer wall of the vessel into the sac. The distal branches of the artery were pervious. The optic nerve was in close apposition with the tumour, but it exhibited no evidence of compression. The Casserian ganglion was situated directly beneath the tumour, and flattened by it. The motor nerves of the eyeball were lost on the wall of the aneurism. The aneurism was nearly solid; the opening admitted a probe only an eighth of an inch; its wall was in great part calcified. A large dissecting aneurism of the aorta was found extending from the commencement of the thoracic part to the bifurcation of the abdominal portion. In reference to the propriety of operation, Mr. Hutchinson added that he thought its proposal had been quite justified by the group of symptoms present—the throbbing in the head, the *bruit*, the paralysis of the several nerves in succession—without other assigned cause. On the whole, although the patient had survived so long, he thought it was a matter of regret that the operation had not been done, as the tumour would probably have been arrested at an earlier stage, and more completely. He urged also that it should be remembered that, during the first part of the case, there was from day to day considerable risk of bursting of the sac. He mentioned another case, which had been under his observation once only, in which a lady from the country, who had some symptoms of aneurism of the internal carotid, was seized with giddiness whilst sitting in church, and died before she could get to the door, the necropsy revealing a ruptured aneurism.

Mr. Carter inquired whether any observations had been made with regard to the channel through which the blood escaped from the eye. Was there any enlargement of the cavernous sinus, or of the veinlets in connection with the facial vein? Was there any compensatory development elsewhere? The President asked whether, in the second case which had been mentioned, there was any ptosis. Mr. Hutchinson said there was paralysis of the sixth nerve; but he did not think she had ptosis. A case had been recorded in which there was ptosis, and in which, when apoplexy occurred, there was immediate loss of ptosis. As the *post-mortem* examination was done at the patient's own house, there was no opportunity of testing the condition of the orbital and other neighbouring veins by injections. He did not doubt the circulation was principally conducted by the veins passing over the margin of the orbit to join the facial vein. An anatomist as able as Mr. Hilton had expressed his belief that the ophthalmic vein did not chiefly empty itself by the cavernous sinus. This case, at any rate, showed that in this woman the collateral circulation through neighbouring veins was as great as that by the cavernous sinus. The fundus of the eye was healthy throughout.

On General Paralysis of the Insane.

Dr. GEORGE THOMPSON contributes to the *Journal of Mental Science* (January, 1875) a paper on the Physiology of General Paralysis of the Insane. He refers to certain sphygmographic tracings of paralytics made by him at the West Riding Asylum, and depicted in the first volume of the Asylum Reports. On these chiefly he founds his theory of general paralysis. He is of opinion that the organic change which exists in the very early stages of general paralysis consists of a diminished calibre of the vessels, which is of the nature of a persistent spasm; also that this spasm, persistent if left untreated, is, if recognized early, amenable to remedial means, and that the lesions found after death are not the cause, but the result, of early organic changes that need be only of temporary duration. He found that the tracing of the pulse at the wrist of paralytics, when untreated, is precisely similar to that found in a person in good health, who had been exposed to a cold bath for the space of one minute. The vessels of the retinae and optic disks are thin and attenuated, and the disks themselves void of their natural pink tint. General paralytics, he remarks, are more frequently the subjects of cerebral syncope than persons labouring under any other disease of the brain; and in the early stages of general paralysis, the temperature of the body is lower than in health, and the

skin of the patient is in the condition known as cutis anserina, resembling that seen in the cold stage of ague, in cholera, or in rigor. He contends that, by the administration of remedies known to be antagonistic to spasmodic action, the pulse-tracing may be brought back to a healthy form, and the retinæ and temperature likewise restored to the normal state. Dr. Thompson bases his theory of persistent spasm on the uniform appearance obtained in the pulse-tracing in the early stages of the disease. It is such as is found when the individual is exposed to such means as are known to produce spasm of involuntary muscular fibre. These are the application of cold to the surface, the administration of ergot, atropia, bromide of potassium, and lead. The condition of general paralysis is one, as a rule, of arterial contraction, but occasionally an hyperæmic condition is found. The mischief lies in a nutshell, which is vascular supersensitiveness. A patient whose pulse usually indicated vascular spasm, after drinking half-a-pint of asylum beer, exhibited a tracing such as is usually found in pyrexia, and his temperature rose from 97° to 98° . The opposite condition is often shown by attacks of cerebral syncope. In confirmation of the theory that the lesions seen after death are the results and not the cause of early organic changes, Dr. Thompson quotes the words of Dr. Long Fox, who says that "variations in the normal blood-supply of the brain will, if long-continued or frequently repeated, induce structural lesions that can be recognized after death; each of them may be the starting-point of phenomena of a severe character, and if the duration of the attack be not protracted, will have no *post-mortem* appearance" (*Pathological Anatomy of the Nervous Centres*). The cause of the arterial spasm, the blanching of the nervous system, is, according to Dr. Thompson, a heightened susceptibility on the part of the vaso-motor system to such influences as are likely to affect it. This heightened susceptibility takes the form of alternate over-dilatation and over-contraction—of over-stimulation followed by a reaction. But the reaction becomes a persistent condition. The paralysis of the sympathetic, causing dilatation, becomes an irritation, causing persistent contraction; this persistent contraction prevents the rapid flow of blood essential to the nutrition of the brain, and the phenomena known as brain-wasting are the result. He also points to the fact, as stated by Dr. Wilkie Burman in the third volume of the *West Riding Asylum Reports*, that the average weight of the heart is considerably greater in general paralysis, and in chronic and consecutive dementia, than in other forms of insanity, the supposition being that hypertrophy has been set up by the absence of dilatability of the vessels. For all this the Calabar bean is the best remedy at present known, but it must not be given during excitement, as has been done by some physicians.

[Dr. MILNER FOTHERGILL, in a paper on "The Heart-Sounds in General Paralysis" (*West Riding Asylum Reports*, vol. iii.), speaks of the accentuated second sound of the heart in this disease, and attributes it to cerebral hyperæmia, a stage of hyperæmia with mental exaltation preceding one of atrophy, or brain cirrhosis, where obliteration of the function of the brain coexists. And in the fourth volume of the same reports he says, "conditions of brain-anæmia are induced by the use of agents which depress and slow the heart's action, *e. g.*, the Calabar bean, in states of cerebral hypervascularity, and for this purpose Dr. Crichton Browne has used the physostigma to control the wild outbreaks of general paralysis."—G. FIELDING BLANDFORD.]—*Lond. Med. Record*, March 24, 1875.

On Cysticerci in the Brain in a Case of Progressive Paralysis of the Insane.

The *Gazetta Medica Italiana-Lombardia* for January 16 contains a paper read before the Psychiatric Society in Milan, by Dr. E. GONZALES, resident medical officer of the Lunatic Asylum in that city, on a case in which cysticerci were found in the brain of a patient who had died of progressive paralysis.

The patient, D. A., aged forty-one, was admitted into the General Hospital of Milan on March 10, 1871, suffering from symptoms which led to the diagnosis of general paralysis of the insane. In August, his condition being unim-

proved, he was removed by his wife, but was again admitted in October, and in March, 1872, was transferred to the Asylum, where the diagnosis was confirmed. On June 17, he died of syncope consecutive on an epileptic fit.

In 1863, having previously enjoyed good health, he had a sudden attack of epilepsy. The attacks at first recurred at long intervals, and were sometimes followed by sopor, sometimes by fits of mania. From being mild and affectionate, he became violent and irascible, and negligent of his duties. His intellect, at first clear, became confused; the epileptic attacks became more frequent, and he fell into a state of general emaciation, with stuttering and uncertainty of gait. He had an idea that he was the possessor of great wealth, and that, though of known honesty, he was accused of petty thefts. His wife, to whom he was formerly much attached, he regarded as the cause of his disgrace. He was subject to hallucinations of vision and to insomnia. He was treated by nitrate of silver and other remedies, both in the General Hospital and in the Asylum, but without any improvement of his condition.

At the necropsy, which was made thirty-six hours after death, the dura mater was found to be somewhat thickened and firmly adherent to the cranium; the pia mater was congested. The cerebral convolutions were dense, and pressed against each other; the anterior cases were much flattened, as if atrophied. Half of the convex surface of both hemispheres was occupied by ten more or less transparent cysts of various size and shape, most, however, being round, and of semi-solid consistence. They were of a pale yellow colour, and were partly adherent to the pia mater and partly imbedded in the cerebral substance, from which they were removed by enucleation. The lateral ventricles were distended with serum; the right contained seven cysts attached to the ependyma, and in the left was a cyst floating free in the fluid. In the left Sylvian fissure there were five cysts, joined together in a cluster. Resting on the medulla oblongata, between the foramen cæcum and the point of decussation of the pyramids, was another cyst; on removal, it left no depression. The medulla oblongata was of firmer consistence than normal, and it was somewhat of a straw colour; the cerebellum was normal. The lungs were œdematous and hyperæmic; the heart was healthy. Nothing abnormal was found in the abdominal and pelvic viscera.

The cyst removed from the medulla was examined microscopically under the direction of Dr. Visconti; and the head of a cysticercus, furnished with a double row of hooks and four lateral suckers, was distinctly seen. The medulla oblongata presented alterations which were also found in five other cases of general paralysis. The nerve-cells were changed in form, and consisted of a homogeneous bright substance, without any nucleus or nucleolus; the margins in some cases being well defined, in others imperfectly.

Dr. Gonzales remarks that his case is interesting on account of the rarity of free parasitic cysts in the cavities of the brain, and because hitherto there has been no recorded case of cysticercus located on the medulla oblongata, nor of association of the parasite with progressive paralysis of the insane.

The author regards the progressive paralysis as not having been caused by the cysticerci, but by the pathological changes in the medulla oblongata.—*London Med. Record*, March 10, 1875.

— *Disseminated Cerebro-spinal Sclerosis.*

Dr. BUZZARD exhibited to the Clinical Society of London (*British Med. Journal*, April 17, 1875) a patient suffering from this disease. The man, a house-painter, aged 33, but looking many years older, was wheeled in a chair to the upper part of the room, and beside him was placed another man affected with paralysis agitans; and Dr. Buzzard then proceeded to compare the symptoms by which the two diseases, often confounded, could be distinguished. The patient with sclerosis, whilst seated and with his limbs in repose, showed no signs of tremor in any of his muscles; whilst in the other man there were constant rhythmical movements, which could be seen even at a distance, and his hands maintained the position characteristic of paralysis agitans, the thumb

being applied to the forefinger, as in taking a pinch of snuff or rolling a cigarette. The head of the latter patient was projected stiffly forwards; the chin of the former rested easily upon the upper part of the chest, for the reason that an effort to hold the head upright caused violent agitation of the muscles at the back of the neck. Asked to rise, the patient with disseminated sclerosis made at first several ineffectual efforts, his whole body being thrown into violent tremors, the feet being lifted from the ground when evidently he wished to stand upon them; and he attained at last the standing position, and took a few steps only with the help of an attendant. The patient with paralysis agitans rose without increase of tremors, and walked easily, but with a hurrying gait, the body bent forward. In answering questions, the articulation of the patient with sclerosis was observed to be greatly embarrassed, the words being clipped and uttered in jerks, syllables being often repeated three or four times, so that it was very difficult to comprehend him. The patients were then removed, and Dr. Buzzard gave some details of the case of cerebro-spinal sclerosis. The man had ordinarily enjoyed good health; but, about two years ago, he was attacked with shakings of the arms and legs, only when he wished to move them. These increased, and, after six months, he had to give up work, but remained able to walk until six months ago. For the first six or eight months of his illness, he suffered only from the shakings; but then he began to have attacks of giddiness, with difficulty of articulation, and found that he could not read many lines without confusion in the type. At the same time, he began to experience numbness in the lower extremities, which still continued. The giddiness he had not felt for the last three or four months. At present, there was some, but not much, deficiency of power in all four limbs. There was slight dulness of sensibility in his lower extremities, but no impairment of the functions of the bladder or rectum, and no loss of sexual power; nor was there loss of muscular sense. He did not suffer from flying pains, like those of locomotor ataxy, but he was subject to pain at the top of the head occasionally. The sense of smell was intact, the sight somewhat enfeebled. There was no paralysis of the third, fourth, sixth, seventh, and eighth nerves. The action of the masticatory muscles was a little irregular, and there was tremulousness of the tongue. His wife thought him as intelligent as ever; but, as he could not speak, except with difficulty, or read without embarrassment, or rise to his feet without help, he passed his time in a chair, doing nothing, and his face wore an aspect of hebetude. If he took a newspaper, he would read perhaps twenty lines fairly, but then he became confused, skipped several lines, or returned to one already read, and was forced to give over. The ophthalmoscope showed dark grayness of the optic disks, the vessels proportionate, and not tortuous; the outlines of the disks not sharply defined. In his remarks, Dr. Buzzard mentioned that, although the anatomical characters of this disease had been pictured by Cruveilhier nearly forty years ago, and about the same time by Carswell in this country, and although since that time many cases of the affection had been recorded by Türk, Frerichs, Valentine, Hasse, Niemeyer, and Leyden, it was certainly to Dr. Charcot, of Paris, that the credit was due of differentiating the disease from other forms of paralysis, and especially from paralysis agitans. This had been done during the last few years, and the diagnosis had been made so clear, that it was almost impossible to understand the cause of any confusion in the two disorders, whose pathology, he might add, differed completely. Whilst the symptoms in disseminated cerebro-spinal sclerosis were always dependent upon the presence of scattered patches of indurated and condensed connective tissue throughout the brain and spinal cord, there was no constant lesion to be found in those who died with paralysis agitans. Dr. Buzzard added, that he did not bring forward the case as a pathological curiosity, but with the hope that, the more widely diffused was the knowledge of the peculiar features of the disease, the more likely it would be that valuable information would be gleaned as to its earlier stages. In hospital practice, it was only seen when confirmed, and then it was too late to treat it with any hope of success.

Scrofulous Angina.

Dr. LANDRIEUX, the chief of the clinique of La Pitié Hospital, Paris, sketches (*Archives Gén. de Méd.*, Dec. 1874) the history and pathology of this severe form of scrofula, which was first described by Dr. Hamilton, of Dublin, in 1845. He quotes several writers, mostly French, who have contributed to elucidate the subject. The origin of the malady is obscure; its advance insidious, unaccompanied by pain, and marked by no prefatory signs of inflammation of the mucous membrane of the pharynx and adjoining parts, which it especially seizes upon. Isambert considered the posterior wall of the pharynx to be usually the first point attacked, but Landrieux asserts this priority as most common in the soft palate and pillars of the fauces. Generally, when patients first consult their doctor, there are signs of previous mischief in the shape of cicatrices, adhesions, deformities, the pharyngeal lesions being at the same time in full operation. The appearance generally is that of induration with hypertrophy of tissues, shown by projecting, rounded rugæ of greater or less size, together with adhesions radiating in character and seriously interfering with the movements of the palate. The tonsils and adjacent mucous membrane frequently escape for a considerable time the morbid action, and this fact becomes somewhat diagnostic of this scrofulous disease from syphilis, which frequently attacks primarily those parts of the throat. The larynx is also slow in taking on the morbid process. According to Isambert, there is primarily hypertrophy of the mucous follicles of the affected membrane, soon followed by ulceration of their orifices. In the second period the mucous membrane looks pale and shrivelled, with vascular injections only here and there. But the characteristic features are the gray, dirty-looking ulcerations superficial only, and with irregular margins. The mucous membrane around them is not injected, and is devoid of the vascular contour around so frequently encountered in syphilitic eruptions of mucous membranes; it is almost impossible to scrape them clean, and they always maintain their caseous aspect. Although they show a preference for the posterior wall of the pharynx, they will at times invade surrounding parts; thus, by extending to the Eustachian tube they provoke exceedingly violent pain and cause complete deafness; or if they occupy the posterior or anterior surface of the epiglottis they give rise to various painful consequences; and, lastly, if they penetrate deeply they set up mischief in the bones, mostly at the level of the arch of the palate, but, as has happened, on the anterior surface of the cervical vertebrae. When cicatrization ensues, greater or less deformity of the soft parts is the result. It is a remarkable feature that, as is also usually the case in lupus of the face, the lymphatic glands are not in any degree involved by this ulcerative process. As a matter of course, the functional disturbances met with are regulated by the site of the disease. They consist chiefly in difficulty of deglutition and in loss of hearing. Commonly there is almost absence of pain; hence the frequency with which the earlier stages of the disease are overlooked. But later on, the act of swallowing is attended by much pain, and solid food has to be laid aside, whilst even liquids will not pass without great effort. In bad cases the arch of the palate is indurated and thickened, and the pillars of the fauces destroyed, whence it happens that food is thrown forwards into the posterior nares, or the epiglottis is thickened and ulcerated and food drops into the larynx, provoking violent cough and often vomiting or retching. The voice is frequently affected, although no primary lesion in the vocal cords is to be found. The alteration is especially in its "timbre," the voice is vibratile and nasal, and the emission of some sounds painful.

The course of the malady is habitually exceedingly gradual, and one of its most frequent modes of termination is by the onset of pulmonary phthisis. In the illustrative case recorded by Landrieux copious hemorrhage of bright blood occurred on two occasions, the second attack, two days after the first one, proving fatal. At the autopsy this bleeding was found to proceed from an ulcerative opening into the external carotid. This termination is the least common of the three fatal kinds mentioned, viz., erysipelas of the pharynx,

œdema of the glottis, and hemorrhage. M. Constantine Paul asserts that three-fourths of the cases are curable, but with this favorable opinion Landrieux cannot concur, and supposes M. Paul to have other forms of angina in view besides the severe variety described by Hamilton.

The diagnosis of this disease is attended by considerable difficulty. It is most likely to be confounded with ulcerative or gummatose tertiary syphilitic angina; but in this latter the ulcers have a different aspect, they discharge pus more freely, are deeper, are more threatening in aspect, and more rapidly induce periostitis. Moreover, syphilitic ulcers have sharper edges, which are injected, and have around them a red margin which readily bleeds; the pain attending them is more acute, their course more rapid; the lymphatic glands around become involved, and for the most part they are accompanied by special morbid phenomena, and often have their character made clear by the patient's history. Furthermore, the seat of syphilitic ulceration is especially about the soft palate or the larynx, whilst that of scrofulous angina is mostly in the pharynx. Yet it must be admitted that the diagnosis is at times impossible. This happens chiefly in scrofulous subjects who have contracted syphilis. To designate such cases M. Bucquoy proposed the term *scrofulo-syphilitic angina*.

Tubercular lesions of the mouth and throat are not likely to be confounded with this scrofulous angina, for their seat is different; they occupy the buccal walls and tongue, and almost always have no existence until the pulmonary disease has far advanced.

But there remains one other morbid condition from which scrofulous angina must be distinguished, viz., the tuberculous lepra or elephantiasis of the Greeks. In this malady there may be more or fewer tumours around the arch of the palate, or on the pharynx, of considerable size, and either ulcerated or not; but the mucous membrane is of a violet-red hue and is anæsthetic, and in almost all instances the larynx is involved, and this usually from the commencement.

Lastly, cases of cancer of the throat may now and then be met with, particularly in persons somewhat advanced in life, which have to be diagnosed from the form of angina in question. In such instances the history must be inquired into, the primary seat of the lesion and its course determined, the presence of exalted or diminished sensibility and the condition of the lymphatic ganglions made out.

A review of the characters of the malady leads to its being regarded as a malignant ulcerative angina, of scrofulous origin, and to its pathological position alongside *lupus exedens* of the face. Otherwise it may be spoken of as a lesion identical with hypertrophic scrofulous or tubercular lupus.

The perusal of the case recorded by Landrieux will furnish the reader with the clearest conception of the history and course of this serious disease, and of the histological changes consequent upon it.—*British and Foreign Med.-Chir. Rev.*, April, 1875.

Lesions of Heart and Aorta in Variola.

M. BROUARDEL, physician to the Hôpital St. Antoine (*Archives Gén. de Méd.*, December, 1874), has applied himself to show that in variola, especially when severe, there are certain definite lesions of the heart and aorta, over and above those already described in the muscular tissue itself of the heart, and that those lesions possess special characters. He notes the fact that such changes have been incidentally referred to by several French writers, and states that the basis of his researches was furnished by 389 cases of variola in a special smallpox hospital for females. Of the 389 treated, 87 died.

At the outset he makes a distinction between the vascular lesions occurring at the early stage of the disease and those which happen towards its close, when suppuration, pneumonia, pleurisy, and articular rheumatism may arise. The endo-pericarditis which complicates these secondary maladies does not differ from the cardiac inflammations ordinarily associated with articular rheumatism or with pleuro-pneumonia. He likewise detaches another group of cardiac

inflammatory lesions met with in pregnant women, in those delivered, and in those suckling children during the course of smallpox, in whom cardio-vascular changes may be attributed to the puerperal state. With respect to patients who survived, only those have been noted as suffering cardio-vascular changes in whom both the ear and sphygmograph have given evidence of such lesions.

Of the 389 variolous women, 53 presented the morbid changes in question, or nearly 1 in 7 of the total number. Moreover, 36 were delivered of children in the course of their illness, and of these 12 had vascular lesions. After deducting these cases and 5 others who had secondary rheumatic affections or pleuro-pneumonia, and in all of which vascular changes existed, there remain 348 of uncomplicated smallpox, of which 36 presented changes in the heart and aorta, verified in 27 instances by post-mortem examination. Analysis of the 27 autopsies shows that in 9 instances the aorta, the endocardium, and the pericardium, were affected; in 5, the pericardium and aorta; in 3, the endocardium and aorta; and in 1, the pericardium and endocardium. In no instance was the endocardium alone involved, but in 7 the aorta only was the seat of disease, and in 2 the pericardium only. In many instances, recent false membranes were encountered on the pleura, attributable to the same pathogenetic condition. Endo-arteritis exhibited itself in the form of slightly raised patches of a bright or dusky-red colour, known as gelatiniform patches. They were never found ulcerated. Although for the most part deeply coloured, some were of a rosy and even pallid hue. Their most common site in the aorta was just above the orifices of the coronary arteries. Microscopically examined, they are found to consist of a mass of flattened cells in the substance of the lining membrane of the vessel, and lying upon the middle coat, which presents little or no change. The external coat is likewise unaffected.

In the endocarditis of variola similar patches occurred, but not specially on the free margin of the valves, and, unlike the deposits of rheumatism, unattended by vegetations, or almost so. The pericarditis observed in cases that have died before the thirteenth or fourteenth day presents some special features. The false membranes formed are limited to particular spots, and recall by their form and size the appearance of pustules, although they are in reality small masses of fibrin and leucocytes. They occur especially in the auricles, and, next to these, on the anterior or posterior surface of the aorta and pulmonary artery. When death takes place at a later period of the disease, these deposits are of greater magnitude, and are met with on the visceral and parietal surfaces of the pericardium. Pericardial effusion is small in amount, and serous only, except when death happens late in the disease, when it is augmented in quantity and sero-purulent in character.

Myocarditis occurs, as a rule, in hemorrhagic and confluent variola, and may exist apart from inflammation of the cardiac envelopes, although almost always concurrent with it. With reference to symptoms during life indicative of these cardio-vascular changes, M. Brouardel observes that none exist either sufficiently indicative of or that can be fairly interpreted as reliable signs of those changes. Precordial pain and anxiety, dyspnoea, and dulness on percussion, may, so far as can yet be made out, be affirmed as signs equally belonging to cases of smallpox without as with the lesions spoken of. Some help towards diagnosis is, however, supplied by auscultation and the sphygmograph, particularly when their results can be made to accord, although even aid so gained is apt to be nullified by the external eruption and the amount of complications that may exist. The predilection of the lesions in question for the valvular orifices, and especially for the aortic valves, has been noted already, but the amount of alteration in those localities is commonly so limited in extent as not to produce murmurs indicating narrowing or insufficiency, and, on the whole, when murmurs are present there is no certainty in the attempt to associate them with those particular cardiac changes. However, M. Brouardel surmises that when after two, three, or four days an aortic murmur (which when first heard is of a soft character) becomes harsher, and a second bruit is heard at the apex, recalling that of aortic insufficiency, we may still, with much misgiving, pronounce on the existence of the peculiar lesion he has investigated. With respect to sphygmography, he affirms that the lesion of the heart or

aorta is first shown by a flattening of the apex of the line of ascension, and that this result attends on aortic insufficiency. The concordance of the sphygmographic and auscultatory signs he holds to be sufficient to predicate the alterations described; the presence of the latter by themselves is unreliable.

The cardio-vascular derangements commonly exhibit themselves at the outset of the eruption, progressively advance throughout the period of maturation, remain evident during desiccation and desquamation, and decrease and usually disappear during convalescence. The lesions have not the lasting character and remote consequences of rheumatic mischief in crippling the valves. Nevertheless, they are indications of the severity and gravity of the attack, the consequences of which they do not seem materially to modify. Statistics show that they occur in a higher ratio in hemorrhagic variola.—*British and Foreign Med.-Chir. Rev.*, April, 1875.

A Remarkable Case of Ascites.

Dr. ALLAN JAMIESON, of Berwick-on-Tweed, relates in the *Edinburgh Medical Journal* for April, the case of a woman who, after requiring the performance of paracentesis abdominis one hundred and thirty-three times on account of rapidly recurring ascites, made a perfect recovery. The cause of the effusion seems to have been obscure. The patient was a temperate woman, who had generally enjoyed good health, and the ascites came on gradually in 1869, her age being then sixty. She had no heart-disease, no albuminuria, never suffered from jaundice, and the size of the liver was normal, though Dr. Jamieson thinks he detected a nodular surface; the idea of ovarian disease was negatived by Dr. Keith. The operations were all performed between April, 1870, and September, 1874; at one time the patient had to be tapped every week, three gallons being removed on each occasion. Towards the end of this period the fluid accumulated more slowly, but the interval between the 132d and 133d tapping was only three months. Since this last operation there has been no reappearance of the dropsy; the patient now gets about actively, and is in excellent health.—*London Med. Record*, April 14, 1875.

On the Use of Chocolate in Chronic Intestinal Catarrh.

A series of articles from the pen of Dr. KARNER has lately appeared in the *Allgemeine Wiener Med. Zeitung*, in which he shows the value of this substance as an article of food. He refers especially to its use in chronic intestinal catarrh, and cites, among others, the following typical case of chronic catarrh of the intestines to illustrate its action in the simplest manner: "Rosalia M., aged seventeen months, poorly developed and nourished, suffered from intense meteorism, numerous thin, fluid, feculent discharges, which alternated from time to time with normal stools. There was considerable emaciation, and the child also had intertrigo, of which there were frequent relapses. The diarrhœas could be attributed only to poor nourishment. After strictly regulating the diet, small doses of Dover's powder and acetate of lead were first administered, and in three days were substituted by the chocolate, of which a cupful was given daily. A dessert-spoonful of the powder sufficed for a cup of chocolate. The mother was also instructed to allow the child as little fluids to drink as possible. The result was astonishing. The discharges decreased in number day by day, the weight of the child rapidly increased, and after a few weeks it had perfectly recovered; a remarkable change for the better was observed in its bodily development, and the intertrigo had not recurred."

Such cases of chronic intestinal catarrh admit of no experimentation, as the physician is usually called at a time when the symptoms of disease have already assumed a threatening aspect. "By this diarrhœa," says Niemeyer, "the previously healthy, well-nourished child is at first but little affected; but some fatal judgment often asserts it to be a safety-valve that protects the child from convulsions during teething, and that must not be stopped. Hence it often happens that the doctor is not called till the child has become flabby and

relaxed, and then it is frequently difficult to master the disease; the diarrhœa continues, the child emaciates more and more, and a large number of children die during their second year from chronic catarrh of the intestines."—*London Med. Record*, March 24, 1875.

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Hæmaturia without Albumen, constantly alternating with large deposition of Uric Acid.

Dr. E. J. SHERMAN, Physician to the Rotherham Hospital, reports (*Practitioner*, April, 1875) four very interesting cases in which there was not a symptom of pyelitis, no serum of blood in the urine, no mucus, no albumen, no renal colic; but an enormous quantity of blood-corpuscles, which in every case, when checked, were immediately replaced by very large crystals of uric acid; and when the uric acid secretion was checked, blood-disks in immense quantities reappeared. In one case, the loss of blood was so great as actually to produce syncope. "I have been in the habit, for many years, of testing the urine of nearly all my patients, and have exhibited these specimens to some of my professional neighbours, who are quite as much surprised at the absence of albumen as I am, taking into consideration the large quantity of blood-disks.

"When the urine is acid, albumen is generally soon deposited, by boiling and adding nitric acid; and when I saw, most plainly, such a quantity of blood-corpuscles in the cases I have described, without being able to detect an atom of albumen by this process, I consulted every good authority I knew on the subject; feeling that if even the kidneys could possibly be in such a condition as to excrete blood-corpuscles without serum, it could not happen in four consecutive cases; and that the hæmato-globulin of the blood-disks alone contains sufficient albumen to be plainly tested. I therefore procured some fresh pure nitric acid from Messrs. Horn and Thornthwaite; used small test-tubes with a drachm of the urine containing the blood-corpuscles, to which I added, successively, 5, 15, and 30 drops of the new nitric acid *both before and after boiling*; watched the effect of each at least twenty-four hours, and *then boiled it again*, and still no appreciable albumen was deposited. Fearing my nitric acid might be too strong, I diluted it—with no better success. After boiling the blood-corpuscles, without nitric acid, in a very small tube, instead of any deposit, there was a sort of little adhesive mass formed, which left a mark round the top of the small quantity of urine. I am aware there is a peculiar kind of albumen in some urine, which is first *deposited* and then *dissolved* by nitric acid: this I ascertained was not the case in these specimens. Whenever there was blood in these cases, the urine was always acid enough.

"Since these cases were written I have become acquainted with a note of Dr. Brown-Séquard's "On a rare cause of mistake in testing urine for albumen," in No. 3 of his *Archives of Scientific Medicine*, which I had not seen before; but this does not solve the difficulty."

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Treatment of Eczema.

Dr. L. D. BUCKLEY, of New York, in an interesting "Analysis of 1000 Cases of Skin Disease" (*American Practitioner*, May, 1875), gives the following résumé of his treatment of eczema:—

"I do not order poultices to remove the crusts of infantile eczema, as many do, preferring much to cause their separation by means of fatty matter. Among the poor, and sometimes among the rich, I have the head soaked in cod-liver oil (sweet-almond oil answers), or I have the ointment applied at once in a tolerably soft form; directing that the head shall not be washed at all, but as fast as the crusts fall, perhaps with slight assistance from the finger-nail, the ointment is to be re-applied; the idea being to thoroughly protect the irritated mucous layer of the skin, and to shield it from air and water. Occasionally the crusts will accumulate and adhere, and it becomes necessary to use a poultice or wash the head well with warm water and borax; but this, in my experience, is very rare.

"During the past year I have employed very largely tannin in ointment (one

drachm to one ounce) in eczema, and like it very well. A very common treatment is to bathe first with the *liquor picis alkalinus*, diluted ten or twelve times, twice a day, and apply the tannin ointment immediately afterward. I have also used with very satisfactory results the subnitrate of bismuth in ointment (half a drachm to one ounce), and prefer it in very many instances to that of zinc, as commonly employed. I would again mention the value of the rose-ointment as an excipient, and its efficiency when the simple ointment has failed. Several cases of eczema rubrum, covering quite a large part of the body of children one or two years old, were seen. These cases are often most obstinate. Our best results were attained by starch and alkaline baths, and powdering the surface with subnitrate of bismuth and starch.

"Internal treatment is always required, and I believe that the largest percentage of good results was obtained by means of cod-liver oil in appropriate doses. Syrup of the iodide of iron is also invaluable in treating eczema in children.

"In adults most of the cases of eczema were of the chronic form, very many of them being in the legs, and dependent upon varicose veins. The treatment of these is very frequently unsatisfactory, because of the continued existence of the cause, especially among the poor, who cannot give the necessary time to rest. Elastic stockings should be insisted on in eczema of the legs when the disease has recurred often or lasted long; for, although the veins may not appear to be varicose, there is often a want of tone of the capillaries, which is supplied by the stockings. We have had good results from the use of tarry preparations, and have known a moist eczema to be completely healed after a very few applications of the *liquor picis alkalinus* in full strength. A common treatment in chronic eczema is equal parts of tar and oxide-of-zinc ointments, with the addition of a little mercurial ointment, as the citrine, when the surface ceases to be moist.

"In place of the *sapo viridis*, or green potash soap of the Germans, I have been employing the ordinary American soft-soap made with potash, and with almost, if not quite, as good results, although it contains relatively less potassa. In one case of eczema of the hands, in a mason aged thirty-three years, which had existed for ten or more years, it was used with excellent effect. He had been treated by me with other measures for six months with varying success, and when this method was commenced the skin on the back of both hands was very greatly thickened, even to three or four times the normal; the surface was hard and scaly in some places, moist and cracking in others. He was first given a strong potash solution (one drachm to one ounce), with which the surface was well rubbed once or twice, and covered with the diachylon ointment of the Germans. This caused great swelling, which subsided, leaving the parts somewhat less thickened. He was then directed to rub in the common soft-soap well, night and morning, and cover the hands as before; and after a short time the friction with which it was applied was increased, until he came to using an ordinary scrubbing-brush, such as is used for the floor. Dipping it in soft-soap, the back of each hand was scrubbed—the palm resting on a table, till the opposite arm and shoulder were tired. The result was that at each visit a marked diminution in the thickness was noticed, and in three weeks the skin was reduced to almost the normal thickness, and his hands were better than they had been for ten years. This is an exaggerated case, but is of value, showing how far the stimulating treatment may be pushed with advantage; whereas, on the contrary, ninety out of one hundred of the ordinary run of eczema cases would be greatly aggravated by such means.

"In one case of eczema of the scrotum I obtained very excellent results from the repeated application, by means of a camel's-hair brush, of the compound tincture of benzoin. The man ceased attending before the thickening had entirely disappeared, and the ultimate result cannot be stated with certainty; but it is probable that the disease was cured, as the remedy was the first one tried by me, and the relief and satisfaction expressed by the patient was very great.

"Quite a large share of the cases of ordinary eczema of various parts was treated by the oxide-of-zinc ointment, very generally in conjunction with some

internal medication, depending upon the state of the patient. Many of this class are the constant subjects of dyspepsia, and the rhubarb-and-soda mixture was very commonly used. I frequently add Fowler's solution to it, giving of the latter three or four drops with a teaspoonful of the former. Many of these patients require tonics, and the ammonio-citrate of iron and compound tincture of cinchona were generally used. Acute lichenous eczema I frequently treated with Startin's mixture of sulphate of magnesia, sulphate of iron, aromatic sulphuric acid, and gentian. Acetate of potassa, alone or combined, was used somewhat, and in my hands has done much for eczema."

Surgery.

A New Method of Arresting Hemorrhage.

Dr. GUSTAV C. E. WEBER, Prof. of Clinical Surgery in the University of Wooster, Cleveland, Ohio, in a clinical lecture (*Medical Record*), May 1, 1875, stated that we know that the muscular tissue of the middle coat, the chief contractile material, is not commensurate with the size of the vessel, that, in fact, as remarked before, it positively diminishes with the size of the vessel. There must be a reason for this; it cannot be accidental. It must find its explanation in the physical necessities of the circulation of the blood in large vessels.

Now, if this be correct, and if the want of sufficient contractile force is the cause of the non-arrest of bleeding, can we not rectify matters by simply doubling or trebling the amount of the circularly-acting tissue, by turning the end of the vessel inside out, as we would turn up the cuff of a sleeve? By so doing, we would obtain double or treble the amount of contractile force, and also furnish an equivalent for retraction.

Dr. Weber finds that the end of a vessel can be easily turned by means of the little instrument invented by M. Luer, of Paris, and called *fixateur à gaine*.

The success of the trials which Dr. Weber has made, seems to him sufficient to justify his bringing this subject to the attention of the profession.

On the Treatment of Traumatic Tetanus by Hydrate of Chloral.

Dr. GONTIER, in his *Thèse de Paris*, December, 1874, reports twelve cases of tetanus treated by chloral. An analysis of these leads to the following conclusions. Chloral may render great service in the treatment of chronic or subacute tetanus, and is especially preferable to other drugs. It is completely inefficacious in acute tetanus, and only has a slight palliative action. It may be advantageously associated with tonics, diffusible stimulants, and diaphoretics. Intravenous injections of chloral are extremely dangerous, and should in the present state of science be reserved for exceptional cases only.—*Lond. Med. Record*, April 21, 1875.

The Sulphuret of Carbon in Chronic and Atonic Ulcers.

M. GUILLAUMET writes (*Journal de Thérap.*, February 10, 1875) in warm terms on the value of this substance, first introduced by M. Michel in 1867, and since abundantly tried in Dr. Costilhes's wards at the St. Lazare, in cases in which all other remedies have failed. Owing to its nauseous odour, it is applied as rapidly as possible over the surface of the wound, by means of a morsel of charpie, the surface being then covered over with a fine powder of nitrate of bismuth or starch. In recent ulcerations, one or two applications suffice, but five or six applications may be required in old ulcers before any appreciable modification is obtained; but then cicatrization advances rapidly. The

following are the conclusions arrived at: 1. Sulphuret of carbon is a very powerful cicatrizer. 2. Its action is rapid and quite local, not producing any of the accidents which attend the prolonged inhalation of its vapours. 3. Its application is accompanied by pain, which is sometimes sharp, proportioned to the susceptibility of the patient, but in most patients of very short duration; it is immediately followed by a period of anæsthesia, which, however, is not constantly present. When it exists, it lasts for several hours, while the painful period does not last more than from twenty to sixty seconds. 4. The sulphuret acts upon wounds of different origin and nature (syphilitic, scrofulous, diphtheritic, etc.), and modifies all of them advantageously. 5. It is a valuable agent in the treatment of all wounds and ulcers which possess the common characters of chronicity and atony.—*Med. Times and Gaz.*, March 20, 1875.

On Transplantation of Rabbit's Conjunctiva into the Human Conjunctiva.

In the *Wiener Medizinische Wochenschrift* for November 14, 1874, Professor OTTO BECKER, after reviewing shortly the successfully treated cases of Dr. Wolfe, of Glasgow, relates two cases of symblepharon on which he had operated in the same way. In the one case, he used a portion of the conjunctiva bulbi of a white rabbit, about eight millimètres square. In the other, in which the loss of substance after loosening the symblepharon was much larger, and he therefore desired a large portion of conjunctiva, he removed the cartilage of the palpebra tertia, and employed the conjunctiva, which covers both sides of that lid. The latter he found more difficult to flatten out well than the conjunctiva from the bulb. He finds that the flap, after removal from the rabbit's eye, is very thin, and has a great tendency to curl, and that, unless notice be taken by marking the branch of the forceps which is applied to the epithelial side, it is difficult to recognize the one surface from the other. He thinks fine needles with very acute angles are necessary for the operation, and recommends those made for him by Lüer, of Paris. The transplanted portion remained quiet, not changing its form or colour for the first forty-eight hours, but on the third day vessels could be recognized in it. On the sixth day the suture at the corneal side gave way, and the flap took on a three-sided form; but the result was satisfactory, as the lids were free, the eyeball movable, and the transplanted portion thoroughly engrafted on to the normal conjunctiva, and taking part in its circulation. The foreign tissue was, however, always recognizable by its lighter colour. The other case, on account of the restlessness of the patient, a boy four years of age, was not so successful, but sufficiently so to encourage Professor Becker to recommend the operation. As sutures he used fine untwisted silk, which he had used for some time in all conjunctival wounds requiring sutures, and which, he says, do not require to be removed. The suture may suppurate out without causing any complaint from the patient; but it frequently is imbedded in the tissue for years without the patient being aware of its presence.—*Lond. Med. Record*, February 10, 1875.

On Iodoform as a Remedy in the Treatment of Affections of the Cornea and Conjunctiva.

Dr. CHARLES S. BULL, Ophthalmic Surgeon to Charity Hospital, New York, reports (*Medical Record*, April 24, 1875), that about a year ago his attention was called to the therapeutic value of iodoform as a local application in cases of pannus and phlyctenular keratitis, by Dr. Edward Curtis, of New York, and since that time he has used it in a large number of cases with very beneficial results.

"At first I employed it empirically, or at least attributed to it only an anæsthetic action; but being somewhat surprised at the effects produced, I have studied its action more carefully. In the first case in which it was employed, which was a woman with a sluggish keratitis marginalis, with small phlyctenulæ on the edge of the cornea, and an obstinate form of marginal blepharitis, the patient came the next day and said the eyes felt very much

better; there was scarcely any lachrymation, and the feeling of irritation and photophobia had almost disappeared. The application was continued daily, and the improvement continued. I now began its use systematically in the class of cases just mentioned, and was almost always gratified by a rapid and steady improvement. The results in each case were carefully observed, and thus an attempt was made to discover its mode of action; how the effect was produced, and whether it was due to a purely local action or to a constitutional influence as well.

"There are quite a number of medicines in our pharmacopœia which have a marked local action on mucous membranes, and among these we must place iodoform, owing to its well-known properties as a local anæsthetic, whether as vapour or in substance. Continued observation of the results of iodoform in certain cases have convinced me that the beneficial effect is mainly owing to the local action of the drug as an anæsthetic, but I also believe that it exerts an alterative action in the system through absorption by bloodvessels.

"The first noticeable sign of its action after being dusted upon the cornea and into the cul-de-sac is rather a negative one, in that it causes no irritation at all, or at least a very slight one, and this in but very few cases. This is rather remarkable, when we consider that iodoform in substance is crystalline in structure, each crystal having very sharp angles. Perhaps its non-irritating character is due to its being entirely devoid of corrosive properties.

"Another sign of its beneficial effect is the cessation of the pain and photophobia in cases of pannus and obstinate ulcer of the cornea, where these symptoms are often very troublesome. The pain often ceases after the first application, and the photophobia also disappears within a day or two. May we not explain the disappearance of both these symptoms as due to the anodyne action of the drug? In some of these cases of pannus and phlyctenular keratitis, the sensitiveness of the cornea and conjunctiva is very greatly increased. The terminal nerve twigs grow into the new inflammatory tissue, and as they generally are very superficial, are consequently exposed to the constant secretion of a pannus accompanied by granular lids, or to atmospheric influences, or to both, particularly if the cleansing of the eyes is frequently repeated. Atropine, though it may dilate the pupil, often fails in quelling the pain. Now the iodoform comes into immediate contact with the exposed nerve-fibres, and produces within a very short space of time complete anæsthesia of the parts, and if the action is kept up long enough, and is frequently repeated, the anodyne effect extends more deeply into the inflamed tissues. In most of the cases I kept up the use of caustics to the lids as usual, where there was any hypertrophy of the palpebral conjunctiva in connection with the pannus, but having found that the iodoform worked very well alone, I discontinued the use of the caustics in all cases except where there was real trachoma or granular lids, and have been very well satisfied with the results. Of course in the latter class of cases, caustics must be regarded as absolutely indispensable, and the iodoform can only be looked upon as an adjuvant in the treatment.

"Most of these cases of pannus and phlyctenular keratitis occur in persons of a strumous diathesis, and whether this has anything special to do with the beneficial effects of the local action of the drug, is a question not yet satisfactorily settled in my own mind. Owing to the large amount of iodine it contains, it might be thought that enough was absorbed by the vessels of the conjunctiva to exert a specific action upon a strumous constitution. But it is still somewhat doubtful whether the lachrymal or conjunctival secretion contains any ingredient which will dissolve the iodoform, and thus facilitate its absorption, for it is insoluble in water.

"In these cases of pannus and keratitis, dependent on a strumous diathesis, though there is nothing unique or characteristic about them, yet we almost always administer internally some form of iodine in combination with tonics, in addition to the local treatment, and the syrup of the iodide of iron is always a favourite remedy; but of late I have been giving iodoform internally to these patients, in doses varying from half a grain to two grains, in combination with the citrate of iron and quinine, three times a day, according to the age of the patient, and with very excellent results. The cure of the pannus or keratitis

is hastened, and a very beneficial effect is produced upon the general tone of the system. It seemed to facilitate the absorptive process in enlarged glands, and thus certainly acted as an alterative.

"I have never noticed any ill effects from its local or internal administration, even when its use has been continued for weeks, and with children its internal administration seemed to be borne better than the syrup of the iodide of iron. Of course, after some weeks the system becomes almost saturated with it, although some of it must be carried off by the urine, but a great deal is given off in the pulmonary exhalations, and the patient's breath has a very perceptible odour of iodoform. How long this will last after the administration of the drug has been discontinued, I do not know, as the cases almost always disappeared from observation when the severity of the symptoms subsided. M. Maitre affirms that iodine can be detected in the saliva and urine, two hours after iodoform has been administered, and that nearly three days elapse before the whole is eliminated. He states that from a dose of thirty or forty centigrammes, no effects are observed, except a slight increase of the appetite. In large doses the drug acts as a narcotic, and has two stages; the first stage is one of more or less prostration, with symptoms of intoxication, followed by complete recovery. If still a larger dose is given, the second stage comes on, and is marked by intense excitement, anxious breathing, a strong and bounding pulse, opisthotonos, and death.

"Iznard uses iodoform in solution as a local application, and recommends the following formula:—

R. Iodoformi	.	.	.	.	.	grammes 2-3.
Glycerinæ	.	.	.	.	.	grammes 30.
Alcohol	.	.	.	.	.	grammes 10.

"This, however, would probably occasion considerable pain, and hence the drug in substance is to be preferred."

Double-sided Paralysis of the Ocular Muscles.

Dr. M. LANDSBERG (*Berliner Klinische Wochenschrift*, December, 21, 1874), remarks that the paresis or paralysis of one or more of the muscles of the eye-ball is very often a clue to the nature of intracranial disease, inasmuch as the particular muscles implicated, or the order in which several are successively implicated, and the temporary or permanent derangement of its functions are all of importance in enabling us to understand the nature of the case with which we have to deal. Von Gräfe (*Archiv für Ophthalmologie*, vol. xii.) has left upon record the details of several cases in which paralysis of one or more muscles upon each side had been noticed, and he has expressed the opinion that the explanation of these and similar cases is to be found in the existence of periostitis at the base of the skull. On the other hand, Michel (*Klinische Monatsblätter*, 1872) has described an instance of double-sided paralysis of the third pair, in connection with rheumatic fever, which, he concludes, was due to hyperæmia of the meninges and consequent effusion of serum. Landsberg is unable to indorse the opinion of Von Gräfe on this point; and in the paper before us he has published the details of several cases which he cannot include in the category as being due to periostitis.

Case I.—Louis S., having previously enjoyed very good health, took a sudden chill after dancing, in the middle of September, 1873, and during the same night was seized with intense pain in his eyes, which rendered it impossible to move them without moving his head at the same time. The next morning he saw double, and was still in pain; but the pain left him in the course of the next few days. The double vision, however, remained, and became more and more annoying because the images appeared oblique. He presented himself to Dr. Landsberg on October 12, who found absolute immobility of both external recti muscles; the movement inwards of the eyes was limited to 1''; while the movements upwards, and upwards and outwards, and downwards, were altogether abolished. The fourth pair appeared to be involved also; but the movements of the eyelids, and the action of the pupils, and the accommodation, were not

affected on either side. The acuteness of vision was normal. The double images were not always noticed. In all probability because of the great distance which intervened between them. With the exception of the pain in the eyes, the patient had nothing to complain of, his general health not being impaired. The treatment consisted in the administration of tartar emetic in nauseating doses; and at the end of three days the patient could move his eyes upwards and inwards, the improvement being more marked on the left than on the right side. The same treatment being persevered with, the improvement was maintained; and by the end of October considerable power of movement outwards had returned. Owing to some degree of permanent contraction taking place in the internal recti, there was for some time a slight degree of strabismus. With the aid of the continuous galvanic current this was eventually overcome, and by the end of January the patient was in every respect well again.

Case 2.—Herr Z., aged forty, consulted Dr. Landsberg on August 21, 1873, having suddenly been seized with pain in the orbits, followed by diplopia, about eight days previously; he had up to this time enjoyed very good health, and had never suffered from rheumatism or syphilis. On examination, it was found that the external rectus of the left eye had lost its power, and later on, when the case had been under observation some days, it was evident from the nature and position of the diplopia that the corresponding muscle on the right side was also affected. The recovery of this patient, though eventually complete, was but slow, and did not appear to be materially assisted by any remedies employed.

In the former of these two cases it is difficult to suppose that the cause could be referred to any basilar periostitis such as Von Gräfe has suggested, and Dr. Landsberg inclines very strongly to the opinion that the mischief was rheumatic in its origin. But as regards this latter case, while we cannot suppose the existence of any intracranial periostitis, there is no reason to refer it to the category of rheumatic affections. The third case is recorded as the type of a double-sided paralysis, due in all probability to the occurrence of intracranial hemorrhage.

Case 3.—Ida B., aged fourteen, was brought to Dr. Landsberg by her mother in September, 1871, who said that a fortnight previously the child had fallen upon the back of her head; she was stunned at the time, and when at length she recovered her senses she complained of severe headache and of seeing everything double. During the last few days the diplopia had been less noticed, but the pain was persistent. On close examination it became evident that both the external recti muscles had lost their power over the eyes, and that diplopia was always present under certain conditions. In the course of time a secondary contraction of the internal recti occurred, but was in its turn overcome. No other muscle was affected, and neither the action of the pupil nor the accommodation was interfered with. In the course of a few weeks the child had completely recovered, no signs of cerebral disease, or even cerebral disturbance, having manifested themselves.—*London Med. Record*, May 5, 1875.

On Percussion of the Skull and its Signification for the Diagnosis of Exudation in the Tympanic Cavity.

In the *Monatsschrift für Ohrenheilkunde* for October, 1874, Dr. R. HAGEN gives the results of his observations of percussion on the skull in healthy and diseased ears. If the percussion be on the middle line of the vertex, the noise occasioned thereby is synchronous and equally loud in both ears if they be healthy, have an equal hearing power, and both meatus be open. Under the same circumstances, when the percussion is on the mastoid process or to one side of the middle line, the noise is heard on the corresponding side only. Closing one meatus by any means will cause the noise to be louder in that ear. Where the membrana tympani is clogged from the inside, and not from the external meatus by a serous accumulation, as has been determined by the speculum before making the percussion experiment, every patient, without exception, has experienced in the affected ear a clattering noise. In using the three-

limbed auscultation-tube in such cases, Dr Hagen was not able to detect a difference in the sounds conveyed to his ears, as one would have expected. By Weber-Liel's tympanic catheter he removed and replaced repeatedly the serous exudation in a diseased ear, and always with the same results as above mentioned, *i. e.*, the abolition of the clattering noise on the removal of the serous exudation, and its return on the re-introduction of the exudation. He thinks, therefore, that where, from thickening of the membrane, the presence of serous exudation may be doubted, this method may be relied upon as pathognomonic of its presence, and in no case where he has acted upon his diagnosis so obtained has he been deceived. He has made numerous observations in cases where purulent or mucous exudations were present, but the patient does not experience the same sound in these cases.

In the serous exudation which Dr. Hagen has removed in such cases he has found, microscopically, white blood-corpuscles and epithelial cells, a few fat-cells and pus-cells, now and then peculiar crystalline bodies, and always one or two ciliated epithelial cells still in active motion.—*London Med. Record*, May 5, 1875.

On the Treatment of Inflammations of the Middle Ear.

Professor GRUBER read before the k. k. Gesellschaft der Aerzte in Vienna, a paper which is reported in the *Allgemeine Wiener Medizinische Zeitung* for December 22, on the treatment of inflammatory affections of the middle ear. He pointed out especially the fact which ought to be kept in mind by aurists, that the tissues bounding the tympanic cavity are very unfavourable to the resorption of exudation in the cavity, while the natural outlet, the Eustachian canal, has in those cases where it is most desired that it should be open, *viz.*, when mucous or purulent accumulations are lying in the cavity, its mucous lining so much swollen, and the lumen so narrowed thereby, that the passage of such masses is not easy, and, moreover, the muscles of the tube are in such cases often disturbed in their function and incapable of acting sufficiently. The means employed by surgeons to remove such accumulations have been, and are, perforation of the membrana tympani, passage of the air-douche through the Eustachian tube, or both combined; some insisting that the evacuation of the cavity without perforation of the membrane is not possible; others, among whom stands Professor Gruber, holding that the air-douche alone is often successful, while in others it is not so, or only imperfectly. To determine the cause of failure in some, Gruber has examined fifty temporal bones. He found in normal auditory organs great differences in the distance from the isthmus to the mouth of the Eustachian tube, the distance varying from one and a half to four and a half millimètres (0.06 to 0.18 inch). In some the opening of the canal was circular, in others very irregular, and in other cases so narrowed that it had a breadth of three-quarters of a millimètre, with a height of from two to three millimètres. From the walls of the bony tube, also, were sometimes seen ridges projecting, which, especially when the mucous membrane is swollen, must lessen the lumen of the tube considerably. The tympanic opening of the tube was sometimes as high as five millimètres above the floor of the cavity, while in others it opened close on the floor. The posterior wall of the carotid canal, in some cases, projected into the tympanic cavity on its anterior wall, while in others its course on that wall was not recognizable. The convexity formed on the floor of the cavity by the jugular fossa was found smooth or irregular, according to the development of the superior wall of the fossa. Lastly, bony lamellæ were sometimes seen to spring from the walls of the cavity projecting into it, and so forming deep recesses in which masses of exudation might become fixed.

These peculiarities must have, as Professor Gruber says, an influence on the action of the air-douche; and he raises the question of the advisability of employing this remedy always for the removal of exudations from the tympanic cavity. He believes that in some cases where purulent or ichorous exudation is present, the air-douche may drive it into the mastoid cells, and so cause inflammatory processes there; and, with this belief, he proposes to remove the

exudation by means of a suction-instrument, passed through the membrane, in the same manner as has already been done in England.—*London Med. Record*, May 5, 1875.

Iodoform in Chronic Suppuration of the Middle Ear.

Dr. FRANK H. RANKIN, Assistant Surgeon to the Manhattan Eye and Ear Hospital, contributes to the *New York Medical Journal* (May, 1875) an interesting article on this subject.

Until within a very recent period the use of iodoform was confined almost exclusively to venereal troubles, and chiefly employed as a topical remedy. Its domain of usefulness, however, was not allowed to remain contracted to so narrow a field, but is now constantly widening, and every year is showing the importance of this very useful drug.

Though containing ninety-six per cent. of pure iodine, it is totally devoid of corrosive properties, and has not the slightest local irritating action. It can be applied to highly-inflamed and sensitive tissues, without exciting pain; in fact, it acts as a local anæsthetic. Besides possessing the stimulating effect of the ordinary iodine and iodides, it acts as a local tonic, and possesses highly disinfectant properties. We would naturally conclude that a drug possessing so many valuable properties would be of decisive benefit in chronic suppuration of the middle ear, and the highly favourable result obtained in the cases just given justifies us in asserting that in iodoform, properly used, we have a very important agent in checking the chronic discharges from the tympanic cavity.

Before using the iodoform, which should be in a finely powdered state, it is, of course, essential to see that all secretion shall have been *thoroughly* removed from the middle ear, and the parts well dried with cotton on a holder. The instrument I have used for blowing in the iodoform is an insufflator similar to that used for the throat, with only this difference, that the tube, instead of being curved, is straight.

Buccal Lipoma.

Dr. LABAT, in his *Thèses de Paris*, 1874, has collected thirty-two cases of this affection, and has from these facts constructed a special chapter of pathology possessing great interest. These lipomata may occupy indiscriminately all points of the mouth, lips, tongue, gums, cheeks, roof of the mouth, soft palate, and palatine arch. Their essential characteristics are, to be situated directly under the mucous membrane; to form a distinct projection under it, and sometimes under the skin; and to show a transparent yellowish colour through the mucous membrane. They offer a peculiar sensation of softness to the touch, called lipomatous; thus their diagnosis is generally easy. They are easy of extirpation in consequence of their submucous situation, therefore they should be operated on through the mucous membrane, and not through the face; besides which, this proceeding presents the double advantage of rendering the operation harmless and avoiding disfigurement of the countenance.—*London Med. Record*, April 14, 1875.

On Tumours of the Tongue.

M. MOLLIÈRE, Surgeon to the Hôtel-Dieu at Lyons, makes the following observations upon some rare tumours of the tongue (*Progrès Médicale*, No. 1, 1875).

Hydatid Cyst of the Tongue.—L. S., aged twenty-four, a schoolmaster, entered the Hôtel-Dieu, at Lyons, on September 18, (?)¹ 1874. This young man, who seemed to be of a robust constitution, dated his malady from the preceding March. A pimple then appeared upon the tongue, followed in a few

¹ There is evidently a mistake in the dates. Probably the 18th ought to be the 8th.

days by violent pain. The pimple was then about the size of a pea, but rapidly increased. Inflammatory symptoms of great intensity supervened. The tongue acquired an enormous size, and for fifteen days the patient could swallow no food. When this inflammation ceased, he found the tumour of the same size as before. It was indolent, but it continued to enlarge, so that after some time he had much difficulty in performing the duties of his calling. When he entered the hospital a round and very hard tumour, about the size of a nut, was seen on the right border of the tongue, its greatest prominence being towards the upper surface. This tumour was well defined, regularly rounded, and indolent. The tongue was seized with a napkin, and drawn with a certain degree of force upwards and out of the mouth. It was thus rendered motionless, and in this way fluctuation was very distinctly observed. The tumour was diagnosed to be a cyst. On September 12 it was operated on. The point of the tongue was seized with sharp forceps, and drawn outwards. A longitudinal incision was made in the dorsum, and the dissection carried on. The tumour adhered closely to the lingual tissues, and was deeply imbedded in the muscles among which it had its origin. There was also a deep adhesion to the ranine artery, which was opened quite at the base of the tongue. When the tumour was removed, it was very difficult to tie the artery. The wound was united by fine stitches of metallic suture. The patient was put to bed, and during the day was ordered gargles of iced and medicated water. Next day there was slight swelling. The tongue was as large as it had been before the operation, of a blue colour, and ecchymosed. There was no fever, and the temperature throughout the whole treatment never reached 39° Cent. (100.2° Fahr.). On the fourth day the stitches were removed. The clots which had accumulated were pressed out of the cavity, and on September 20 the patient left the hospital with only a small linear wound and slight swelling. He could speak freely, and had no pain. When the tumour was examined, a transparent vesicle with very thin walls was found within. It contained a small opaque point. This point was submitted to microscopic examination, and the parasite was discovered with its suckers and crown of hooklets, thus demonstrating the tumour to be an hydatid cyst of the tongue.

M. Mollière's reason for publishing this case is not so much the rarity of hydatid cysts of the tongue, for this rarity is only comparative; but because of the circumstances which accompanied it. The parasite must have entered the tongue during mastication, and the inflammatory symptoms were probably due to it. In the first place it acted as a foreign body, and we must suppose that the inflammation ceased when the parasitical cyst had formed. He calls attention particularly to the method he employed to demonstrate the fluctuation. Its value cannot be appreciated without a trial. It is, in fact, the only way in which the organ can be rendered motionless. The therapeutic treatment, also, he considers to have been the most certain and the most rational. Are we not certain by complete excision thoroughly to extirpate the evil? Total ablation also has the advantage of being much quicker than the other methods—injections, partial excisions, or cauterizations. Finally, he says, the only danger to be feared—that of hemorrhage—is guarded against by the use of sutures. His observations upon this point are, in his opinion, as conclusive as possible, since the suture succeeded in arresting the flow of blood, even when it arose from a wound in the principal artery of the organ. It appears to him that the suture is not sufficiently used as a hæmostatic remedy in operations upon the tongue. He speaks, however, only of the metallic suture. It has the immense advantage over sutures of vegetable material, that it covers the affected region with small sharp points, so that the patient instinctively keeps the tongue at rest.

Lipoma of the Tongue.—The patient was an old man, aged sixty. He had on the left side of his tongue a little tumour, of the size of a haricot bean. This tumour, which was seen under the stretched and transparent mucous membrane, was soft and of a yellow colour. The patient could give no information as to its origin or course. M. Mollière at first believed it to be an abscess or a syphilitic gumma. But there was nothing in the man's previous history to support this idea; and as the author could not discover any fluctu-

ation, he concluded that it was a solid tumour, developed probably in the glands. As it continued to enlarge, he proposed its ablation, and proceeded as follows: A hole was made in a piece of cardboard through which the patient passed his tongue. An assistant held it, while the surgeon laid hold of the tumour with Guersant's hemorrhoidal forceps, which had first been made red hot. After eight days the patient left the hospital cured. Histological examination proved that the tumour was a lipoma. Similar small tumours were seen at the base of the organ, but, as they caused no inconvenience, they were not touched. Lipoma of the tongue is very rare. M. Mollière calls special attention, however, to the method which he used in removing this tumour. It is expeditious, attended by but little pain, and is free from all danger of hemorrhage. He says he has had recourse to it in other instances to remove small cancers situated on the point or edge of the tongue; and thinks that it ought to be substituted for the knife or the *écraseur* in all cases to which it is applicable.—*Lond. Med. Record*, January 17, 1875.

On a Case of Foreign Body in the Neck.

DR. EMAN GOLDSCHMIDT reports (*Medicinisch-Chirurgische Centralblatt*, No. 14-15, 1875) a case in which the blade of a bread-knife was removed from the side of the neck, where it had remained for two years and a half. The patient, who was a soldier, first presented himself in May, 1873, with his head bent forwards and to the left side, and immovably fixed in this position. The soft parts over the mastoid process of the right temporal bone were much swollen, and in this region was a round ulcer having an unhealthy looking surface. The right auditory meatus was filled with thick and ill-smelling pus. This condition was supposed by the patient to be the result of an accident which happened to him whilst felling timber, in which a heavy piece of wood fell upon the side of his head. Dr. Goldschmidt diagnosed the case as one of necrosis or caries of the mastoid process following acute periostitis. There was supposed to have been some absorption of the mastoid process, and a probe could be readily passed from the surface of the ulcer into the right auditory meatus. The corresponding membrana tympani remained intact, and hearing was good. The integument in the neighbourhood of the ulcer was red and inflamed, and the glands on the right side of the neck were hard and swollen; just behind the lower angle of the lower jaw was a small jagged opening, from which a considerable quantity of pus could be pressed out. In December of the same year the patient again applied to Dr. Goldschmidt, and stated that he could feel with a probe a loose rough body below the ulcer behind the right ear. The general health had been much impaired, and an abscess of the size of a hen's egg had formed on the right side of the neck. An attempt was made to remove the rough and movable body from over the right mastoid process, but in consequence of free hemorrhage, and severe pain complained of by the patient, the operation was not completed. On a second attempt ten days later, the body was removed, and to the astonishment of Dr. Goldschmidt proved to be a portion of a knife-blade, which portion was two inches seven lines in length, and seven lines in width at the widest part. The patient afterwards stated that in June, 1871, during a scuffle in an ale-house, he had received a wound on the right side of the neck just behind the ear. This wound bled freely at the time, and remained painful for some weeks. After the removal of this foreign body the movements of the head became free and painless, the profuse suppuration gradually diminished, and finally ceased, and the glandular enlargement and cicatricial thickening were slowly reduced.—*London Med. Record*, April 28, 1875.

Ablation of nearly the whole Spleen, with Recovery.

The following case has some interest as an additional instance of those rare cases where a large portion of spleen has been successfully removed, and as showing that the operation may be followed by no apparent injury to the general health:—

It is reported by Dr. ELIAS that a young man of eighteen, during a struggle with some companions, was cut in the left hypochondrium in such a way that the spleen protruded through the wound. He ran a mile to the police station, and when received into the hospital was so exhausted that no successful attempts at reduction could be made for four days, and by this time the organ was quite strangulated by the adhesive inflammation which had been set up. He had a pulse of 112 to 120, no appetite, a coated tongue, and some headache. His skin was cool. There was no pain, except at the wound, the extent of which was $3\frac{1}{2}$ by $1\frac{1}{2}$ inches. The hilus of the organ could be felt by the finger in the wound. All other operative interference, although strongly indicated, was precluded by the commencement of putrefaction, and a ligature was put around the protruding part close to the thorax, while disinfectants were applied to the injured parts. At the end of three days, as there was fear of purulent absorption, almost the whole organ was removed by the knife, care being taken to avoid the large vessels. A small portion remaining in the wound sloughed off the next day. After suppuration, lasting for from 20 to 25 days, the wound cicatrized. The general condition of the patient improved vastly during his stay in the hospital, and he gained in colour, strength, and weight, while all his bodily functions appeared to be well performed.—*Med. Record*, April 24, 1875, from *Gaz. Méd. d'Orient*.

Absence of the Urethral Canal in a New-Born Infant.

Dr. C. JACQUART reports (*L'Union Médicale*, March 11, 1875) a very interesting case of congenital imperforation and absence of the urethra in a new-born infant. He states that at midnight of October 24, 1874, a woman was delivered of a male child which appeared to have all the external signs of perfect conformation, and nothing abnormal was noticed by the physician in his attentions to the child. The next day the infant was carried to a nurse ten kilometres from the city. On the following day the nurse was disturbed by the incessant cries of the child, but could not discover their cause. On the third day, the 27th, she noticed that the diapers had been soiled by fecal matter only, and that the infant had not urinated.

Dr. Jacquart was summoned in haste, and arrived about three P. M., to find the child very ill, with feeble pulse, pinched features, and uttering loud, pitiful, and continual cries. Sixty-four hours had elapsed since his birth, and no passage of urine had been effected. An examination of the penis showed complete closure of the meatus urinarius, of which neither form nor place was apparent. The glans, slightly uncovered, was wholly without depression, and the prepuce was intimately adherent to the glans at its lower three-fourths. There was need of immediate interference, and yet, a novice, Dr. Jacquart found himself, all unprepared, called upon to perform an operation which he had never seen nor heard of. He proceeded as follows: He made a longitudinal incision in the direction, and at the usual place of the meatus, hoping to find the urethra, and thinking to have only a case of imperforate meatus; but he was disappointed, and having met with no success, he plunged in the supposed direction of the urethra the blade of a straight-pointed bistoury. He sounded the wound he had made with a blunt stylet, hoping to find some index to direct his course.

Finding no passage, and seeing that the danger to the infant was every moment increasing, he decided to make a passage at any cost. He bent a grooved stylet into the form of a sound, and pushed it slowly, but with sufficient force, through the wound already made, in the direction of the absent canal. He became convinced that his efforts were with every advance of the instrument overcoming the difficulty which was constantly encountered, and that the proper path was being followed. Finally the bladder was reached, but not a drop of urine came. Not having a sound sufficiently small, he bent the stylet anew, so as to use the groove as a sort of conduit, and finally succeeded in his purpose. A large quantity of urine flowed along the groove of the sound, and the infant was speedily relieved.

The following day the child had passed no urine, and Dr. Jacquart was obliged to perform in part the operation of the evening before. Some adhesion had taken place of the artificial meatus and walls of the urethra. Accordingly he permitted a very fine bougie to remain, for the purpose of keeping apart the fresh surfaces and preventing their adhesion. The child urinated in spite of the presence of the bougie, which, after a few days, was removed, and urination was normally performed. The cure was permanent. No attempt was made to separate the prepuce from the glans, the parts being very firmly adherent. The quantity of blood lost in the operation was moderate.

The above was a case of imperforation, not only of the meatus urinaris, but of the entire canal, as was abundantly proved by the difficulty of introduction of the sound even to the bladder. The meatus was completely absent, but it seemed to Dr. Jacquart that the walls of the urethral canal were only strongly adherent, and that they in reality existed.—*Boston Med. and Surg. Journ.*, April 22, 1875.

On the Gravity of Compound Fractures of the Femur.

Professor GÜNTNER, of Salzburg (Betz's *Memorabilien*, Heft 10, 1874) discusses the probable causes of the dangerous character of compound fracture of the femur, especially of fracture due to gunshot injuries. Attention is directed in the first place to the conditions and results of a clean and intentional wound of the thigh as in amputation, and to the very great fatality of this operation as compared with that of removal of any other limb. This difference is believed to be due to the quantity of muscular tissue which surrounds the femur, the arrangement and size of the femoral muscles, and the influence exerted by them on the stump. On the surface of a transverse section of a healthy thigh is presented a complex system of membranous tubes and sacs surrounding and enveloping the bellies of muscles, vessels, and nerves. Each of these sacs may become the starting-point of inflammation, set up by the frequent contraction of the muscles arising from the pelvic bones and from the femur. A frequent result of this muscular contraction is the so-called coicicity of the stump, which, though causing exposure of the extremity of the bone and the medulla, constitutes an element of danger. If speedy and healthy occlusion of these sacs and of the medullary canal be prevented through secondary hemorrhage, or if the exudation do not possess the proper degree of plasticity, on account of the unhealthy condition of the patient, there is great risk of purulent infiltration and infection. Although in the forearm, as in the thigh, there is an extensive muscular apparatus, and a complex set of membranous sacs and of sheaths, still amputation in the former limb is usually successful. This Dr. Güntner attributes to the fact, that the muscles of the forearm, arising from the arm or upper portion of the forearm, are not so powerful as those of the thigh, and soon terminate in long tendinous cords. In the relatively thin forearm the results of inflammatory action are soon revealed, and exit may at once be given to pus. In a thigh-stump, on the contrary, widely spread inflammatory action and extensive purulent deposition may take place without the manifestation of any external sign, until it is too late to interfere with any prospect of success. The danger of these secondary processes is increased by the existence in the thigh of a large network of lymph-vessels, always ready to take up deleterious matter and to carry it into the system. In addition to the above-mentioned sources of danger, there are others not less important; the extremity of the bone through muscular action and retraction of the soft parts may, together with its medulla, be exposed to external influence, and so become affected with more or less extensive necrosis attended by profuse suppuration, or with osteomyelitis and osteophlebitis, which frequently give rise to pyæmia. In discussing the means by which some of these conditions of danger might be prevented, Dr. Güntner states that amputation by flaps should be preferred to the circular method, as by the former the speedy occlusion of the sheaths and membranous sacs about the muscles is better favoured, and the bone and vessels are more effectually protected from external influences. In case of obstinate hemorrhage from a large vein, the application of a fine

ligature is to be preferred to pressure by a plug of charpie or any other foreign body. All bleeding, he insists, should be arrested before the flaps are brought together. Muscular contraction may be prevented by firm bandaging of the stump from the pelvis downwards, or, if this fail, by the administration of opiates. Great as are the risks which attend a carefully performed amputation of the thigh, it may be readily conceived that still greater danger is associated with an accidental compound fracture in this region, if we bear in mind the main probable results of such an injury. The soft parts are much contused, and often crushed; the skin and subjacent structures are divided by one or more wounds, which are always irregular and may be of considerable extent; nerves and vessels are lacerated, and there is more or less extravasation of blood. The general grave complications of such a lesion are loss of blood and concussion of the nervous system, indicated by stupor or commotion. As a cause of early death after compound fracture of the femur, Dr. Güntner mentions a form of septicæmia to which he thinks too little attention has been hitherto devoted, viz., septicæmia through diffusion of gases. This is to be met with in cases only where there has been rapid decomposition of organic tissues after much crushing of soft parts or from extensive infiltration of gangrenous excretions. This presents the typical form of septicæmia, since all other forms are more or less complicated by pyæmia. Dr. Güntner is inclined to regard it as a probable but not frequent cause of speedy death in puerperal affections, endometritis, and metrophlebitis.—*London Med. Record*, Feb. 17, 1875.

Resection of the Wrist-Joint.

At a meeting of the Berlin Medical Society, January 10, 1875 (*Berliner Klinische Wochenschrift*), Professor von Langenbeck brought forward two cases in which he had operated for resection of the wrist-joint.

Resections of the wrist-joint at the commencement of disease are rare, the operation being generally undertaken later on. It is frequently performed on account of tuberculous inflammation, which appears in the form of synovitis. Before suppuration sets in, the bones of the wrist become movable, as the fungous granulations of the synovial membrane destroy the ligaments, thus separating the articulations.

The first case shown was that of a man aged twenty-two, of scrofulous appearance since his sixth year. Some years before, Bürow, of Königsberg, had extirpated the third metacarpal bone, and four years afterwards fresh caries appeared in the metacarpus. Resection by means of the dorso-radial incision was performed, removing all the carpal bones, two metacarpal, and the articular surface of the forearm. Tolerably rapid healing followed in the permanent water bath; fistulous tracks, however, remained, probably occasioned by newly formed bone, subsequently necrosing. The tendons were singularly atrophied. A very satisfactory result followed after active and passive motion, the patient being able to seize objects with the fingers, and to lift any light weight.

The second case was that of a woman, aged forty-four, of a phthisical family. Inflammation commenced in the wrist-joint in October, 1874, and a few weeks later the carpal bones became loosened. Seven weeks after the outset of the disease, excision was performed by means of the dorso-radial incision, and all the carpal bones, except the cuneiform and pisiform, were removed, as well as the articular surface of the bones of the forearm. The synovial membrane was much degenerated, and the intercarpal ligaments were destroyed, so that the removal of the bones was remarkably easy. The patient speedily recovered.—*London Med. Record*, April 21, 1875.

On Dislocation of a Cervical Vertebra.

Dr. BERTHOLDT, of Nürnberg, communicates (*Aerztliches Intelligenz-Blatt*, April 6, 1875) the following case of dislocation of the sixth cervical vertebra towards the right side. The patient was a young man, aged nineteen, who, in

washing his neck, sharply turned his head towards the left side, and felt a crack on the right, accompanied by severe pain, and inability to get his head back again into its proper position. An hour afterwards he was seen by Dr. Bertholdt, who found him with the face congested and red, the head askew, the chin resting on the left shoulder. On the right side there was stretching and undue prominence of the muscles of the neck, and on the left a corresponding hollow. The spinous processes of the cervical vertebræ were not in a straight line but in a curve, the convexity of which was directed towards the right side. The patient complained of intense pain in the neck, and any attempt at movement was unbearable. The diagnosis was easy. Reduction was attempted in the following way. Dr. Bertholdt got on a stool and fixed the patient's head by taking the occiput and chin in both hands, making extension upwards, using the weight of the body for counter-extension, and by means of a subsequent rotary movement, the dislocation was reduced. The patient was able to move his head readily in all directions afterwards, and soon recovered.—*London Med. Record*, April 21, 1875.

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On Ligature of the Lingual Artery in Cases of Cancroid Diseases of the Tongue. With Cases in the Practice of M. Demarquay.

M. E. SCHWARZ, Interne of the Paris Hospitals, communicates to the *British Medical Journal* (March 13, 1875) the following note on this subject:—

Ligature of the lingual arteries has been employed in many cases of cancroid of the tongue, with three distinct objects:—

1. To stop hemorrhage in cases of cancroid, in which it is very common.
2. To prevent hemorrhage in operations on the tongue.
3. To ward off the spread of the tumour to other parts, and to cause it to atrophy.

In the first and second cases, in consequence of the very slight anastomoses between the arteries on the two sides of the tongue, ligature of the lingual artery has afforded excellent results; and all surgeons have been well satisfied with it in cases for which it has been indicated. But opinions differ when the third case is in question.

The honour of having been the first to perform ligature of a vessel, in order to produce atrophy of a tumour which it nourishes, is due to Harvey; and it is on the basis of the same physiological principles that Mirault d'Angers, Moore, Liston, etc., and M. Demarquay, have performed ligature of the lingual arteries to produce atrophy of cancroids of the tongue. In 1868, M. Demarquay, Surgeon of the Maison de Santé, published a memoir in the *Archives Générales de Médecine*, in which he summarized all that had been done in the matter, at the same time giving precise directions for tying the artery with ease; and praising ligature, not as a curative, but as a palliative means. He gives reports of twelve cases of ligature of the lingual arteries, of which eight were made with the object of producing atrophy of the artery.

In 1869, M. Broca tied the common carotid artery in order to produce atrophy of a cancroid affecting one side of the tongue. Mauvoisin has added to these cases another in which M. Broca performed ligature of the external carotid; and, in concluding his thesis, he recommends ligature of the lingual artery as a last resource. To these cases now remain to be added three more instances of ligature of the lingual artery performed by M. Demarquay. These cases give the opportunity of examining: 1. What are the indications for this operation? 2. When must one or both of the lingual arteries be tied? 3. What are the immediate and consecutive results of the operation?

1. *What are the indications for ligature?* A clear indication for ligature is when repeated hemorrhages occur, which quickly exhaust the patient if they be not arrested. In a certain number of cases, infection of the lymphatic glands is a second indication. It is, indeed, clear that, if the ulceration or a cancerous growth on the tongue be limited in extent, and capable of being completely removed, no infection of the submaxillary glands being present, ablation will be preferable; but if, on the contrary, the patient have, together with ulceration or circumscribed growths, a cancerous glandular lump, indi-

eating a tendency to invasion, the operation, if performed, should not only extend to the tongue, but also to the glands. This is generally difficult, and is likely to be incomplete when the cervical glands are implicated. As a matter of course, the ligature of the lingual artery will itself be rendered less easy by the presence of glands; but, upon the whole, it will be less dangerous than the preceding operation: and, besides, recourse can then be had to the ligature of the large trunks of origin, as has been done.

Great extent of the lesion is a third indication for ligature. When it is impossible to reach directly the limits of the evil with the *écraseur* or galvanic cantery, ligature, by retarding its progress, will certainly prolong the life of the patient, or will arrest certain accidents.

A fourth indication is drawn from the size of the tumour, and from the symptoms of asphyxia and dysphagia which it then produces. It is specially in these cases that ligature of the lingual artery has often produced remarkable results. Additional indications may be derived from the cachectic or anæmic conditions of the patient, very advanced age, or the harmlessness of the operation in itself. Such is a general view of the circumstances in which ligature of the lingual artery should by choice be performed.

2. *Should one or both arteries be tied?* In the cases quoted in M. Demarquay's memoir in the *Archives de Médecine* for 1868, he tied the two lingual arteries—a practice which has usually been followed. The sufficiently clear demonstration of the division of the circulatory system of the tongue into two parts, right and left, will afford a basis for judging of the opportune-ness of single or double ligature, according to the situation of the points invaded by the epitheliomatous degeneration. If one of the edges or sides of the tongue be attacked (which often occurs), ligature of the corresponding lingual artery will suffice. If, on the contrary, the tumour or the ulceration be median, or, whilst invading one whole side, trespass also on the other, the two arteries must be tied, and that in two different operations.

The results obtained by simple or bilateral ligature are as follows: This operation affects the local condition of the lesion and the general condition of the patient through the medium of the very varied functions in which the tongue has a share. The following facts have been observed almost immediately after the ligature of one or both arteries, according to the existing conditions.

There is generally, at the end of twenty-four hours, a notable subsidence of the tumour, a diminution of the ichorous and fetid secretion of the ulcer, and a distinct softening of the tumour. These results are almost immediate. The functional results are no less remarkable, and even more marked. Speech becomes freer, mastication and deglutition easier; the patient can again keep up his strength by taking food, and his appetite is improved. If dyspnoea had previously been present, respiration becomes almost normal. These more or less immediate results are remarkable. The relief afforded to the patient is most often very remarkable; the more so, as the operation is almost always completely inoffensive, and gives only a little pain when the base of the tongue is moved during deglutition.

The consecutive results are as follows: Ligature of one or both lingu-als is evidently only performed with the object of palliating the evil, and, considering the circumstances in which it is indicated, it is impossible to pretend that it will arrest the progress of the disease or even make it retrograde. Thus, after a longer or shorter lapse of time which has not yet been defined by the majority of writers, the affection continues and resumes its progress; the more so, that the glandular infection has not been in the least arrested, and the patient is carried off either by an intercurrent complication, or by the gradual invasion of the tumour, or by the recurrence of symptoms which were only temporarily suspended by ligature.

Before concluding, I will state the results of three new cases of ligature of one lingual artery, with the object of arresting the progress of lingual can-croids.

The first case was that of a man aged 68, who came into M. Demarquay's wards on October 20th, 1874, suffering from a cancer of the tongue, which had attacked all the left half of the organ, but did not pass the median line. There

was a deep fetid and sanious ulcer, bleeding easily; the patient swallowed with difficulty; his speech was much impeded in consequence of the almost complete immobility of the tongue. The submaxillary glands were lumpy. On November 6th, the lingual artery was tied outside the hyoglossus muscle, and the lump of submaxillary glands was removed during the operation. On November 7th, a notable depression of the lingual tumour of the left side was noted. There was less ichorous secretion; speech was more easy, and the dysphagia was diminished; the tongue was not so hard. On November 12th, the ligature came away; from the 12th to the 24th, the patient had a slight increase of disorder. There were redness and hyperæsthesia of the whole of the buccal mucous membrane. All of these symptoms disappeared by degrees. On December 27th, the patient's general condition was more satisfactory; his appetite was good; he swallowed easily, spoke in a comprehensible manner, and the secretions from the part had but little smell. The ulceration had scarcely increased at all. The pains of which the patient complained before the operation had not disappeared.

The second case was that of an old man aged 69. He came in on November 19th, 1874, suffering from a caneroid of the tongue, for which he had undergone an operation. The first time on the 22d of last May. The right anterior fourth of the tongue was removed; but he had a recurrence of the disease at the end of about five months. On November 13th, he was attacked by violent buccal hemorrhage, which weakened him much; it only lasted eight minutes, but the quantity of blood lost was very considerable. For about a month he felt very severe pains in the whole of the right half of the head, of a neuralgic character, returning in paroxysms. The anterior fourth of the tongue had been removed, the cicatrix was healthy, but the floor of the mouth and the base of the organ at the same side were invaded by a deep ulceration, covered with foul detritus. Its edges were indurated. The submaxillary glands and a submental one were enlarged. Salivation was very profuse, and gave much annoyance to the patient, who spoke with difficulty, and could scarcely swallow anything but liquids. He was ordered a gargle of permanganate of potash, with sulphate of quinia internally. On November 24th, M. Demarquay proposed ligature of the right lingual artery, and succeeded in tying the vessel, notwithstanding the size of the patient's neck and the submaxillary glands. The same evening, a notable reduction of the tumour was observed on the side where the artery had been tied. Salivation was less abundant; the patient felt very well, and had only a little difficulty in swallowing, in consequence of the movements of the subhyoid region where the ligature (outside the hyoglossus) was applied. On November 28th and the following days, there was no accident. Speech became more easy; the ulcer became cleaner, and even seemed to diminish. On November 30th, the patient had an attack of gout. On December 3d, the ligature came away. On December 20th, the patient was much better than when he came into the hospital, and went out. The ulcer was clean, the tongue was less indurated; speech and deglutition were easy; there was no more tendency to hemorrhage; and the general condition was good.

The third case was that of a man aged 62, suffering from a caneroid of the tongue, which invaded both sides of the organ, implicating the base. There were enlarged submaxillary glands on both sides; deglutition and speech were impeded; and there was copious salivation. On December 3d, ligature of the lingual artery of the right side was performed, and a great reduction of the tumour on that side was noted. The salivary secretion was diminished. There were no accidents on the following days, and less difficulty in speaking and swallowing, though considerable pain was felt during the first thirty-six hours. M. Demarquay wished to perform ligature of the lingual artery on the other side; but the patient left the ward, finding himself sufficiently relieved.

In conclusion, the results obtained in these three cases of unilateral ligature are very satisfactory. Without at all pretending to bring forward this operation as one to be often employed in cases of epithelioma of the tongue, we still think that it is likely to render essential service to patients in the conditions pointed out, and that this treatment should be extended to a greater number of cases than it has hitherto been.

Midwifery and Gynæcology.

Management of Head-last Labours.

In an interesting paper on this subject, Dr. WILLIAM GOODELL, Clinical Professor of Diseases of Women and Children in the Hospital of the University of Pennsylvania, states (*Phila. Med. Times*, March 20, 1875) that "for shortening the first stage of head-last labours I have found nothing equal to the hydrate of chloral. Given every half-hour in doses of from ten to fifteen grains it promptly relaxes the most rigid cervix. In head-first labours the early rupture of the membranes usually hastens on the process of dilatation; but in head-last labours this means should never be employed. For obvious reasons it is of vital importance to keep the membranes intact until the os is fully and wholly open. If after the completion of the first stage of labour there is much delay in the descent of the breech, no better directions can be observed than those given by Barnes. The chest, shoulders, arms, legs, and sometimes the head of the child, all act conjointly in forming the base of a wedge, whose apex is represented by the breech. The apex engages, but the base, being more bulky than the brim or the lower segment of the womb, forbids further descent. By bringing down one leg, and preferably the one nearer to the pubic arch, this wedge is broken up, and the further progress of the labour placed under the control of the physician. He should, however, make no further traction on this leg unless it is loudly called for, and then only during a pain, lest the arms should become extended. From a pretty large experience, I can confidently recommend this operation in all cases attended with delay. Nor should it be for a moment postponed after the heart-beats of the child become feeble. When the breech has descended so low as to preclude a resort to this operation, then, of course, the canonical methods of traction on the groins may be employed. But I really cannot understand why the gentle use of the forceps on the pelvis of the child is deemed more hurtful than that of the blunt hook in its groin. The pain that delivers the breech should be supplemented by traction or by supra-pubic propulsion, so that the arms and shoulders may also, if possible, be expelled at the same time. A loop of the cord must then be drawn down, so that its spirally-coiled vessels may not be constricted by being straightened out.

"The breech being born, the uterine and abdominal muscles are in a great measure shorn of their expulsive power, and that at a time when most needed. The life of the child being now imperilled, its rescue is the next important consideration. From the mode of its death—viz., from asphyxia—it is plain that a prompt delivery is the only life-saving factor. Delay here means death. The physician should urge the woman to bear down; but if these efforts prove unavailing, he must hasten to bring down the arms, and at once proceed to the forcible extraction of the child. I say this advisedly, for, although our text-books teach otherwise, I am sure that in nine-tenths of breech-labours it is inaction and not traction that kills the child. So needful to the welfare of the child do I deem its speedy delivery to be, that were an arm so impacted as not to be safely released without a probably fatal delay, I should not hesitate to break it, or, at least, to run the risk of breaking it. Nor do I stand alone in advocating this heroic treatment. It is upheld by such excellent authorities as Braun and Schroeder.

"Supposing, then, that the trunk and arms are born, and the head, gripped by the brim, alone remains for extraction, is the forceps to be resorted to? I answer, 'No;' for, although this instrument is handy enough when the head is at or near the outlet, in high operations its application is attended with so many difficulties that too much precious time is lost. The problem being to get the child's head out as soon as possible, the only factors for its solution are limited to supra-pubic pressure upon the head, and to traction on the body. But the former is not by itself trustworthy; while, as to the latter, the great majority of physicians labour under the idea that the neck of an infant cannot bear much traction.

"Should much disproportion exist between the size of the head and the capacity of the brim, it is emphatically a case of 'neck or nothing;' and the operator must not shrink from promptly using very great force—a force, indeed, only just short of detraction. But I do not believe it possible for a physician even to break the neck of a mature child, much less to behead it, if he applies a steady traction-force, by pushing the neck and body of the child backward and downward, just as he makes downward pressure on the lock of the forceps. Not even when the infant is immature should the efforts of the physician be hampered by the fear of sudden decollation. For the spinal column always yields before the skin and muscles part, and the consequent jerk and the immediate elongation of the neck will give timely warning when to use less force, or, the child being now dead, to end the labour by craniotomy or cephalotripsy. Far better is it, in these emergencies, to kill in attempting to save than to kill by cowardly inaction.

"In order to extract the head with a minimum of traction-force, it is of great importance to exert the power to the best mechanical advantage, and to grade it to the resistance. This brings me to the mode of making traction; but in order to understand the subject fully it will be first necessary to study the configuration of the foetal head, and the mechanism of its extraction. In so far as breech-labours are concerned, the foetal head is made up of the frustums of two cones meeting in one common base. One cone is that portion of the head behind the biparietal circumference; the other consists of that portion in front of the same plane. I shall distinguish them by the names of the 'fore cone' and the 'hind cone.' Looking from below upwards—viz., from the base to the vault—the head is also wedge-shaped. This I shall call the 'wedge.' Now, it has been found over and over again, except in those rare cases of uniformly contracted pelves, that, when an infant is pulled through the brim by the feet, the shorter diameter of the fore cone—viz., the bitemporal diameter—tends to pass directly between the sacral promontory and the pubic symphysis, and the hind cone, together with the large biparietal diameter—viz., the base common to both cones—to pass to one or the other side of these two osseous points. The shorter the conjugate diameter the more inflexible is this law. The head thus makes its first movement of descent in an unflexed condition, but there is usually plenty of room in the bisiliac diameter for the occipito-frontal diameter to pass. Again, the distance measured from the chin to the nipped points of the head—viz., the ends of the bitemporal diameter—being less than the distance from the occipital protuberance to the same points, the chin can hardly ever catch over the iliac edges of the brim. Theoretically, the extension of the head by the arrest of the chin over any point of the brim is a possible accident, but practically its occurrence is so rare that it may be left out of consideration. The cause of this almost invariable adjustment of the occipito-frontal diameter to the transverse diameter of the pelvis is the round and hard surface of the occiput, which glides off to one side of the sloping promontory.

"The head, therefore, passes the brim in the transverse position and in an unflexed condition. But when it is brought into relation with new pelvic diameters, the greater friction of the broader and harder surface of the hind cone brings about the movements of flexion and rotation.

"Granting these premises, it follows that the occipital protuberance is far more likely than the chin to hook over the edge of the brim, and that flexion is an undesirable movement while the head is passing through the conjugate. The rule, therefore, to make flexion at this stage of labour, by passing two fingers into the mouth or on each side of the nose, is not only a piece of meddlesome midwifery, but it entails the loss of much traction-power, and is a sheer waste of very precious time.

"According as the pelvis is of average size or is narrowed in its conjugate diameter, I adopt two modes of extracting the wedge-shaped head; but the one that I shall first describe is the one that I invariably first employ. The woman may retain the lateral position, but, for reasons to be hereafter given, I much prefer her to lie on her back, with her hips brought to the edge of the bed. In a brim narrowed in its conjugate, the promontory is usually sharp and projecting. The sacral side of the after-coming head tends, therefore, to be

bent in by this osseous point and to become fixed by it. Hence the extrication of the head as a whole can take place only when its pubic side revolves around the promontory and glides down over the smooth under surface of the pubic symphysis. Bearing this fact in mind, it is important that the sacral side of the head should become fixed at a point as high up as possible—viz., as near to its vault as possible. To gain this end, the physician, after grasping the nape of the neck with one hand, and the ankles with the other, should make his first movement of traction in the axis of the outlet, for then the pubic side of the head will be tilted away from the inlet, while the sacral side will proportionately descend over the edge of the promontory, and affront the brim. This canting of the head can be very materially aided by an intelligent assistant, who will make very firm backward and downward pressure with both hands, through the now flaccid abdominal wall, upon the vault of the head. By this manœuvre the promontory is made to indent the sacral side of the head at a point still higher up, and nearer to the vault; hence the arm of the lever, measured by a line drawn from the base of the skull to this fixed point, will be correspondingly lengthened—a mechanical advantage not to be overlooked. If now, *without for a moment relaxing, but rather increasing, the original traction-force*, its direction be reversed, and the body of the child be swept backwards upon the coccyx, the neck being also forced downward and backward into the hollow of the sacrum, the sacral side of the child's head becomes deeply bent in, and, the pubic side is made to revolve around the promontory and descend with the least expenditure of traction-force. In other words, the head is warped around the promontory. Should the neck be so short, or the pelvis so deep, that the physician cannot well grasp the nape, he may loop a thin muslin sling over it, and draw on the ends, which should meet in front of the chest.

“Whenever this mode of traction fails to release the head from the grip of the brim, or the difficulty lies rather in the size of the head than in the narrowness of the pelvis, I have, on several occasions, succeeded by a pump-handle movement. Made with a steady and an unremitting traction, it will cause each side of the wedge-shaped head to descend alternately. The range of oscillation should extend from the axis of the outlet anteriorly, to very firm pressure on the coccyx posteriorly. With a sharply-defined promontory this up-and-down movement does not ordinarily succeed, unless the parietal bone has been broken in or greatly depressed as a whole, and not simply indented. Otherwise, the sacral side of the head is held fast, and the pubic side will then vibrate around the indented, and therefore fixed, point, merely rising and falling, without any onward progress whatever. But in the breech-cases ordinarily met with, in which the sacro-vertebral angle is usually round and knobby, or in those of large heads and average pelvises, this pump-handle movement will be found a very precious expedient.

“To either method supra-pubic propulsion by the hands of an assistant is a very important adjuvant. It can with safety be made to any extent, and will greatly lessen the amount of traction-force necessary for delivery. As soon as the head has passed the brim, which it does usually with a distinct jerk, flexion and rotation spontaneously take place, and the line of traction must then be changed to that of the outlet. When finally the head is about to clear the bony canal, the body of the child should be raised up in front of the pubes, according to Hodge's plan, and traction made directly upward in a line at a right angle to the mother's body. This final method of traction augments the flexion of the head, and obviates the necessity for putting two fingers into the child's mouth. When the face presses on the soft parts, two fingers passed up into the rectum will still further increase the flexion of the head, and will serve to protect the perineum from injury.

“One word with regard to the perineum: In head-first labours due time can generally be given for its complete dilatation; but in head-last labours even seconds are too precious to be thus wasted. If, therefore, air cannot be communicated to the mouth or to the nostrils of the child through the gutter made by the physician's fingers, he must disregard the consequences to the mother and forcibly deliver by traction, or, this failing, by the forceps. Should the

perineum be torn, as it usually will be in fat primipara, a perfect union of the wound may be confidently looked for from the immediate introduction of wire sutures.

"In both the previously-given modes of extraction I prefer the woman to be on her back, with her hips brought slightly over the edge of the bedstead, and each knee supported by an assistant. My reasons for this position in preference to the lateral one are: that the propulsive pressure is then more efficiently given either by the hands of a third assistant, or by the free hands of the two assistants; that since the power thus applied resolves itself into a question of weight and not of strength, very few physicians, while bending forward in front of the woman thus placed, can exert a steady force of one hundred pounds upon the neck of the child; and, finally, that the upper hand of the physician can then force the neck into the hollow of the sacrum and thus make the line of traction somewhat behind the axis of the superior strait."

Recto-Vaginal Fistula.

At the meeting of the Lisbon Medical Society on February 13 (*O Correio Medico de Lisboa*, February 22), Dr. RAMIRO GUEDES related an interesting case which had occurred to him.

On April 20, 1874, being then in practice in the country, he was called to see a woman, about thirty-five years old, who was in labour for the third time. Her first labour was difficult, though not requiring instrumental treatment; the child was still-born. In her second labour the medical man who attended her found it necessary to remove the child, which was dead. The operation was followed by a recto-vaginal fistula, with its attendant inconveniences.

Labour had commenced during the night. When Dr. Guedes was called to her late in the day, he found that she had a dry tongue, thirst, loss of appetite, and repeated bilious vomiting. The slightest pressure produced severe pain in the abdomen, which was much distended, not only by the fœtus, but by meteorism. The pulse was imperceptible, the breathing anxious and frequent, and the colour of the skin was higher than normal. There was some vesical and rectal tenesmus, and absolute impossibility to void urine or feces. The uterine contractions were very energetic and frequent.

On examination the labia were found extremely swollen, red, and tender, as was also the whole perineal region. The vagina was inaccessible to digital exploration for more than about 1.6 inch, in consequence of the general swelling of its tissues, and of the presence of two resisting planes, one above (the patient lying on her back) formed by the pubic arch, and the other below by the head of the fœtus. The head of the fœtus presented at the anus, which was somewhat dilated; the occiput apparently corresponded to the anterior part of the rectum. No force was capable of moving the head from its position.

As the patient was suffering from intense peritonitis, Dr. Guedes judged that it would be useless to attempt to relieve her by perineotomy or any other operation. She died the day after his visit; a necropsy could not be obtained.

In the discussion which followed, Dr. Alves Branco advocated perineotomy in such cases, if the child were alive. Dr. Guedes replied that he had not performed this operation, because the woman was moribund with intense peritonitis, and the fœtus was dead.—*London Med. Record*, April 21, 1875.

On the Treatment of Prolapsed Funis.

Dr. J. BRUNTON calls attention, in the April number of the *Obstetrical Journal*, to a mode of treating this troublesome complication of labour, which, though proposed and fully described in 1858 by Dr. Thomas, of New York, has only quite recently found a place in the ordinary text-books of midwifery, and is not as generally known throughout the profession as its success and simplicity deserve. The older obstetricians recommend under these circumstances that delivery should be expeditiously effected by turning or by the use of the forceps, or, if these means cannot be used, that the cord should be pushed up into

the uterus, either on the finger or by the aid of a flexible catheter or a piece of whalebone; these expedients are, however, often troublesome to perform, and are in most instances only temporarily successful.

Dr. Thomas was the first to recognize the importance of placing the patient in a favourable attitude before making these attempts at reduction. He found that by placing the woman on her knees with her head down on the bed, "in the posture assumed by eastern nations in worship," the cord could not only be readily replaced, but that, if the patient be kept in this attitude until a pain has occurred, a return of the prolapse is much less likely to happen. By placing the woman in this "knee elbow position" the cord tends to fall back into the uterus by its own weight; and since the contraction of the uterus at each pain commences at the neck and gradually passes upward, the cord, once within the cervix, is helped on by the advancing contraction, and fixed in some new position. If it be not thought desirable to place the patient in this crouching posture, she should be laid on the side opposite to that on which the funis has prolapsed, and the pelvis should be raised by placing pillows under it. Dr. Brunton has adopted Dr. Thomas's plan for some years past with the greatest success; he relates several cases in illustration of its value.—*London Med. Record*, April 21, 1875.

— On Puerperal Eclampsia.

The April number of the *Practitioner* contains notes of an interesting clinical lecture on puerperal eclampsia, by Dr. MATTHEWS DUNCAN, from which we take the following remarks on the etiology and treatment of that disease.

Dr. Duncan thinks that undue importance has been attached to Bright's disease as a cause of convulsions in pregnant women. That Bright's disease, if present, greatly predisposes the patient to convulsions there is no doubt, but in a large number of cases the fits cannot fairly be ascribed to this cause. It is exceedingly common to find a small quantity of albumen in the urine of pregnant women near the full time, and still more common to find it after fits have occurred, just as it may be found after an epileptic attack. Slight glycosuria may also be found under the same conditions, but the woman would not, therefore, be said to be suffering from diabetes mellitus, neither can she be said to be suffering from Bright's disease, because there is a temporary appearance of albumen in the urine.

The fact is that pregnancy itself induces temporarily in a healthy woman a condition of things very like that which is produced in a more chronic form by Bright's disease. Thus healthy women are known to become hydropic in advanced pregnancy; the researches of Gessner show that a woman gains considerably in weight, excluding the weight of the gravid uterus. Recent investigations by Spiegelberg and Gscheidlen indicate that there is a plethora of this watery blood. Some unpublished researches of Dr. Hardie indicate an increase in the quantity of urea in the blood. The presence of an increased amount of urea in the blood causes, as Mahomed has recently described, contraction of the small arteries and increased blood-pressure; to overcome this, increased power in the action of the heart is needed. To a woman in this condition come the throes of labour, which interfere with the regularity of respiration and suddenly increase the cerebral blood-pressure, flushing the face. It does not seem wonderful that, under this combination of circumstances, fits should occur, and that they should often appear to recur simultaneously with the pains.

As to treatment, Dr. Duncan can lay down no general rule; each case must be treated on its own merits. The most important object is to empty the uterus; but even in this great discretion is necessary; and, if labour be only commencing, forcible delivery should only be performed if the symptoms are becoming desperate; *i. e.*, if the fits become more frequent and severe, and especially if the patient becomes paler and more cyanotic, her breathing shallower, and the coma more profound. It is well to get a free evacuation of the bowels, and the urine should be drawn off and examined. Bleeding, he thinks, is only useful to tide over a crisis; it often produces great temporary relief, but

if the cause of the malady be still present, the improvement may be but of short duration. Chloroform and chloral are sometimes useful, but occasionally appear to do harm; and if respiration be imperfect and much cyanosis be present, chloroform must be used with great caution.—*London Med. Record*, April 21, 1875.

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On the Application of the Practice of Ovariomists to Puerperal Peritonitis.

Dr. NETTER (*Revue Médicale de l'Est*, Feb. 15, 1875) says that this problem must be solved by three considerations, moral, scientific, and therapeutic.

Moral Considerations.—Has a medical man the right, in a case of puerperal peritonitis, to practise incision, an operation without precedent and condemned by tradition—the latter, however, being confronted by the facts in cases of ovariectomy? Is it not the duty of every medical man to fight against disease even unto the death struggle? He supposes two neighbouring wards of a hospital, one filled with cases for ovariectomy, and the other with puerperal peritonitis, and contrasts the mortality in the one and the other, and also the treatment; the treatment adopted saving many grave cases after ovariectomy, as recorded by Spencer Wells, Sims, etc., and the ordinary method of treatment saving few cases of puerperal peritonitis.

If the first case in which we try the injections be fatal, are we to reproach ourselves? Rather let us consider how we must reproach ourselves for all those whom we have allowed to die if this becomes, as he believes it will, the recognized treatment.

Scientific Considerations.—Ovariomists work by constant tappings and injections, placing drainage-tubes in Douglas's space, etc., and obtain marvellous and rapid results from thus getting rid of the peritoneal effusion. The theory on which these plans of treatment are based is, that the absorption of these fluids causes septicæmia. Dr. Netter does not believe in septicæmia, but considers that the effusion acts as a local irritant poison; and he supports his opinion by quoting from Sims, how the fluid stings the fingers of the operator, and how immediate is the amelioration in the fever, etc., when injection is practised. He points out that the fluid is often, post mortem, the only indication of the cause of death, and that the ordinary signs of peritonitis are absent. The fluids act as local irritants, not by absorption; witness the gastric, nervous, and reflex phenomena with the pyrexia. His conclusions are the following:—

1. The septicæmia of ovariomists as a cause of death is a delusion.
2. Their practice founded on this false theory might be simplified.
3. The injection of an abundant quantity of warm water to dilute and render harmless the poison is alone required.

He states that Nussbaum has found that the injections during the first few hours are those which do good; after this the fluid effused is diluted and less irritating.

Applying what has been said to the case in point, puerperal fever, he quotes Velpeau on the irritating and acrid nature of the lochia and other fluids; and Cruveilhier to show that absorption is usually through the lymphatics, and rarely through the veins direct into the blood, and giving rise to deposits in the lungs and liver; when through the lymphatics, the dangerous materials are stopped in the glands. Hence we have not to contend with a constant supply of poison, but only with the immediate effects of the first effusion into the peritoneum.

Therapeutic Considerations.—When trying new remedies we should feel or grope our way along. The indication is to get the water into the peritoneal cavity. This may be done by direct incision or by two indirect methods, by absorption or by injection into the veins. The first he would attain by injecting the water into the uterus in such a way that, while it washed out the discharges, a constant supply was held in the fundus. He does not see why injection into the veins should not be tried here as well as in cholera. Whichever

of these plans is tried, percussion of the abdomen is to be practised, to find when the desired result is obtained.

With regard to direct injection, he does not think the adhesions are as solid during life as they are twenty-four hours later, when the post-mortem examination is made; and in many cases they are absent.

He would have each of these methods tried during an epidemic, with the double view of curing the patients and throwing light on the nature of the malady.

Experience must teach us how to proceed in various cases, and how to supplement the injection, where necessary, by draining, more extended incisions, etc. Surgical intervention should be practised at the moment of invasion, so as to prevent adhesions from forming.—*London Med. Record*, April 28, 1875.

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Epithelioma of Cervix Uteri complicated with Pregnancy; Removal of Diseased Portions; subsequent Delivery of a Healthy Child.

Dr CHARLES T. SAVORY communicated to the Obstetrical Society of London (*British Med. Journal*, March 27, 1875) the particulars of this most interesting case. J. W., aged 35, married sixteen years, with eight children, had a sanguineous, and, at times, watery discharge, offensive in character. A large cauliflower excrescence was detected and removed by the *écraseur* on October 27, 1870. On January 12, 1871, she was delivered of a female living child; both doing well. On June 25, 1873, she was again taken in labour, and, after some little difficulty, turning was accomplished, and a dead child extracted, no undue hemorrhage occurring. The patient succumbed thirteen days afterwards, apparently from sheer exhaustion, two years and nine months from the date of the first operation.

Dr. J. BRAXTON HICKS remarked on the importance of having some rules for the management of cases of pregnancy in malignant disease of the cervix. He thought it, however, almost impossible to obtain any. Each case must be judged of by itself. However, in considering whether we should induce labour, or leave the case for Cæsarean section at full time, a primary question would arise, Can the woman live till full time? Again, in determining the question in regard to the induction of labour, Is the disease limited to the os and lower cervix, or does it extend to the lower part of the body of the uterus in such a way as to render delivery very difficult? If these be difficult, a third may arise, Can we leave the induction to the viability of the child, or must we procure abortion? So much depended on the amount and position of the disease, and the state of the patient, that Dr. Hicks feared it would be difficult to lay down definite rules. He instanced some of the cases which he had seen.—Dr. HENWOOD SMITH thought it fortunate delivery did not happen soon after the operation, for he was very sure that the puerperal state was a very great element of additional danger. He had a similar case some three years ago. Labour set in about the fifth month; delivery was effected by podalic version, and the child was born alive. Removal of the malignant disease of the cervix was effected by means of the *écraseur*, the tissue cut through being apparently healthy. The patient, however, died on the fifth day. The better practice would have been to have postponed the operation until the puerperal state had been recovered from. Dr. PRIESTLEY thought one of the most interesting points in the paper was, that the operation was performed without bringing on labour. It was generally supposed that no operation should be performed during pregnancy, even removing a tooth; but the case proved otherwise.

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On Fibroids of the Uterus: Intra-uterine Myomata.

M. STOLTZ, writing in the *Revue Médicale de l'Est*, February 1, 1875, says that pedicellated fibrous bodies, commonly known by the name of polypi, arise either from the cavity of the body or from the neck. The former are not properly pedicellated, but adhere to a more or less limited surface of the uterus; they are really sessile. They become pedicellated by the excessive uterine

efforts at their expulsion. When in the vagina, they are not really pedicelated. Should the part to which they are attached offer considerable resistance, the capsule may become elongated into a veritable pedicle. As a rule, the fibrous body draws down with it the portion of the uterine wall to which it is attached, causing an inversion of the uterine parietes, allowing thereby the polypus to project into the vagina. This fact should never be absent from the mind of the operator, whether the polypus be still within the uterine cavity or protruded into the vagina, or replaced into the uterus, or drawn down by the manipulator into the vagina. The first object is to make out whether the tumour is pedicelated or sessile; if the latter, the extent of the base. Should it prove to have a wide base, he strongly recommends making a couple of incisions into the capsule with a pair of curved scissors; the tumour then peels out of its capsule as the rind does from off an orange. He has done this operation many times with success; as a rule, it is the most expeditious and least dangerous method of dealing with these growths; but he admits exceptions. The wire *écraseur* he objects to, on account of the danger of cutting the uterus, which has been the case more than once in the hands of the most skilled operators. Professor Braun-Fernwald, for the same reason, advises the tumour to be cut in halves, or a piece cut out of it with the galvanic wire cautery. Other authors strongly recommend that the patient should not be anesthetized before tightening the wire of the *écraseur*, as, from the uterine tissue being a sensitive structure, her sensations will be a fair guide as to whether the uterus has been impinged upon or not.—*London Med. Record*, March 10, 1875.

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On a Case of Rickety Obliquely Contracted Pelvis, the Result of Suppuration of the Bodies of the Lower Lumbar Vertebrae; Cæsarean Section.

At the meeting of the Gynæcological Society of Berlin, on October 6, 1874 (*Berliner Klinische Wochenschrift*, No. 51), Dr. E. MARTIN brought forward a case which occurred in a woman, aged thirty, who had been ill when two years old, and from between the ages of eight and fourteen had suffered from an "open wound" opposite the left sacro-iliac articulation, from which there were removed, on three occasions, large splinters of bone. With the appearance of menstruation the wound closed, and she remained healthy but weak. The contraction of the pelvis was great, with a very narrow and straight pubic arch. The transverse diameter at the outlet measured only 4 centimètres (1.4 inches). The external measurements of the pelvis are given—not the internal. The external conjugate diameter was only 21 centimètres (8.2 inches) and the entire circumference was only 77 centimètres (30¼ inches). The head presented, but on the rupture of the membranes a hand could be readily felt. The labour began at 3 P. M. At 10 P. M., the pains being good, with the anterior lip swollen, and the fœtal heart-sounds being still distinct, Cæsarean section was performed. An incision, 11 or 12 centimètres (about 4.7 or 4.8 inches) long, was made in the linea alba, extending to the left of the navel for about 0.8 inch above it. Hemorrhage was slight, but became profuse on the uterine incision striking the margin of the placenta. An incision about 11 centimètres (4.6 inches) long was made in the uterine walls, purposely more towards the fundus than the cervix. The child was extracted breech foremost, in order to prevent any laceration of the uterus towards the cervix; a small rent did take place at the fundal end of the incision. The fœtus was removed without any difficulty. The child weighed 3.180 grammes (7 pounds), and measured 49 centimètres (about 19¼ inches). After rapid removal of the placenta, the hemorrhage from the uterine wound, which was rather profuse, was easily stopped by means of fourteen catgut sutures. The abdominal cavity was most carefully cleaned out with prepared sponges. The abdominal walls were closed with iron wire sutures, which were passed through the peritoneum, short strips of adhesive plaster were applied between them. A compress soaked in a solution of carbolic acid (1 per cent.) was laid on the wound, and over this cold water, but later on ice-cold applications. The progress of the puerperium was not a particularly disturbed one. The sutures

were in part removed on the twelfth and in part on the fourteenth day. She got up on the seventeenth day and left the hospital on the twentieth; when seen three weeks afterwards, she was perfectly well.

Dr. Martin added the following critical remarks to this communication:—

1. He extracted the breech, which was lying at the fundus, first of all, because he had found from experience that the not unfrequently laborious removal of the head, situated at or in the lower segment of the uterus, easily leads to a lateral rent in its thin muscular walls. A tear in this situation is, on account of the ascent of the abdominal walls during the latter period of gestation, more difficult of closure than one at the fundus; and the danger of secondary hemorrhage (perhaps with consecutive suppuration) is great.

2. In dangerous hemorrhage from the uterine wound, where cold, compression, etc., do not succeed in arresting it, the most reliable means is suture, for which catgut is the most suitable material. It admits the possibility of absorption, whilst the author has seen, for example, silk sutures apparently eliminated by the rectum with signs of irritation. Catgut has its drawbacks, besides its tendency to break. In one case of Cæsarean section, the suture in the uterus became united; in another of ovariectomy, the pedicle slipped out of the catgut noose; and in both the results were fatal.

3. The peritoneal cavity should be cleansed with the greatest care by unused sponges. The neglect of this precaution cannot with certainty be retrieved either by supplementary suction of the abdominal cavity, although in some cases of ovariectomy this has succeeded admirably, or by drainage into the vagina through Douglas's pouch.

4. Great weight was laid upon the after-treatment, especially the attendance and the withholding of food and drink at first, and the application of remedies only when there is a definite indication for their use (for example, hypodermic injections of morphia). The external wound is treated with compresses of one per cent. of carbolic acid lotion, then with cold compresses. The ice-bag is rarely applied. Any artificial means for an early emptying of the bowels is not required. [Sir James Simpson always advised the abstraction of the arm and head first, on account of the danger to the life of the child from grasping of the child's neck through contraction of the uterus.]—*London Med. Record*, April 28, 1875.

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Temperature of Puerperal Eclampsia.

Dr. BOURNEVILLE (*Archives de Tocologie*, April, 1875) relates the particulars of four cases of eclampsia, from which he concludes that:—

1st. In eclampsia, the temperature increases from the commencement to the end of the attack.

2d. In the interval between the fits, the temperature maintains itself at an elevated degree, and at the time of the convulsions it increases slightly.

3d. Finally, if the eclampsia is likely to terminate fatally, the temperature continues to increase and attains a very high degree; if on the contrary the fits cease, and if the coma diminishes or disappears, the temperature goes down gradually and returns to the normal standard.

He lays great stress upon differentiating the various kinds of uremia from puerperal eclampsia, and states that from observations of over thirty cases, a *diminution* of the temperature occurs at the commencement in uremia, and an *elevation* in puerperal eclampsia. As the case progresses towards a fatal issue, the temperature in uremia descends very low, even below the normal standard, whereas in puerperal eclampsia it rises to a very high degree.—*Obstetrical Journal of Great Britain*, May, 1875.

Medical Jurisprudence and Toxicology.

Chronic Lead Poisoning.

Of late the attention of physicians and chemists has been largely drawn to this subject on account of the increasing frequency of its occurrence, and on account of its great importance from a hygienic point of view. Not much that is new has been added to our knowledge of the sources of lead poisoning, but many experiments have been performed which assist in explaining the exact action of the various kinds of water upon lead pipe, and much has been done to discover means of purifying water which has become contaminated with lead compounds, and for substituting innocuous utensils instead of those which contain lead in their composition.

That distilled water when exposed to the air has a very powerful action upon metallic lead is not a new observation. Thus, M. Pierre (*Journal de Pharmacie et de Chimie*, June, 1874) detected $1\frac{1}{2}$ grain of the hydrocarbonate of lead in the distillate collected after passing steam through a coil of lead pipe. Nor is it new, that the presence of certain salts in water modifies this action very greatly. The effect of various saline compounds has been studied at considerable length by M. Fordos (*Journal de Pharmacie et de Chimie*, July, 1874). He finds that in potable waters which contain bicarbonate of calcium, the oxide of lead combines with a part of the carbonic acid, and there results a precipitate of the mixed carbonates of lead and calcium, which adheres to the surface of the lead pipe and prevents further contact of the metal with the water.

In water which contains the sulphate of sodium, the precipitate which results consists of a mixture of the carbonate and sulphate of lead. At the same time the water becomes alkaline to test-paper, and the filtered solution gives a black precipitate with sulphuretted hydrogen. Not only, therefore, has a precipitate of lead-salt formed, but there is also some lead in solution. This is explained in the following way. The oxide of lead, formed by the action of the water, reacts on the sulphate of sodium to form sulphate of lead and hydrate of sodium (liquor sodii); the carbonic acid derived from the air converts the latter into carbonate of sodium, which reacts upon the sulphate of lead to form carbonate of lead and sulphate of sodium again. The sulphate of lead is not absolutely insoluble in alkaline solutions.

With water which contains common salt, the result is analogous, a mixture of the chloride and carbonate of lead being formed. Analogous also is the action of the chloride of ammonium, nitre, and nitrate of ammonium.

The action of water which contains gypsum (sulphate of calcium) upon metallic lead is very slight, a precipitate of the carbonates of lead and calcium being formed upon the surface of the metal, protecting it from further action. If the water contain in addition to the gypsum .001 of common salt, the action upon the lead is much greater. The sulphate of magnesium has the same action as the sulphate of calcium.

It will be seen, therefore, that the presence of alkaline salts in water can render partially soluble those salts of lead which are insoluble in pure water, such as the carbonates and sulphates, and thus partially counteract the beneficial effects of the earthy sulphates and carbonates in preserving the pipe from being further acted upon by the water.

M. Rafard states (*Journal de Chimie Medicale*, November, 1874) that the simple addition of sulphuretted hydrogen is not a sufficiently delicate test for lead in water, since the hydrocarbonate of lead, which is formed by the action of pure water upon lead, and which consists of four equivalents of the oxide of lead, three of carbonic acid, and one of water, often exists in the water in a state of such minute subdivision that it cannot be seen by the unaided eye. In such a water, it is necessary first to dissolve the lead carbonate before it will be blackened by the sulphuretted hydrogen. In order to effect this solution it is only necessary, before adding the sulphuretted hydrogen, to bring the water to boiling, and add a few drops of a solution of tartrate of ammonium, which

dissolves those lead compounds which are insoluble in water. — If these precautions be adopted, the brown colour of the sulphide of lead can be seen if only very small amounts are present.

To remove lead salts from water, M. Chevallier (*Annales d'Hygiène*, July, 1874) recommends the use of animal charcoal. This method is especially applicable on board vessels to remove salts of lead or copper from the water which is provided for drinking purposes by distillation. In many of the distilling apparatuses, the coil for the condensation of the steam is made of lead or copper, and the water thus condensed always contains a certain amount of the salts of the metal of which the coil is constructed. Many cases are recorded of what is termed "dry colic" among the sailors on board of vessels which are provided with such an apparatus.

Experiments of Lowitz and others have shown that animal charcoal is capable of removing from water not only various organic matters, but also many mineral salts, such as those of lead and copper. The treatment of the water is as follows: To each hectolitre (about 26½ gallons) should be added thirty grammes (about one ounce) of well-washed animal charcoal; the mixture should be well shaken or stirred several times, and then allowed to settle. The supernatant fluid is free from compounds of lead or copper, and is suitable for drinking purposes. Upon the same principle, by using charcoal filters for water which has flowed through lead pipe, tolerable security against lead poisoning can be obtained, if care be taken not to overtax the filters.

It has long been known that one of the fertile sources of chronic lead poisoning is the use of common glazed earthenware dishes for the preservation or cooking of food, especially acid fruits. The glazing of such vessels contains lead, which can be dissolved out by acids. M. Constantin, a chemist in Brest (*Journal de Chimie Médicale*, October, 1874), has invented a new glazing which contains no lead, and should be substituted for the lead glazings. This is made by fusing a mixture of one hundred parts of silicate of sodium, fifteen parts of powdered quartz, and fifteen parts of chalk. To these ingredients may be added ten parts of borax, which renders the glass more fusible, and adds to the brilliancy and durability of the glazing.

In the *Journal de Pharmacie et de Chimie* for August, 1874, is given a report by MM. Bergeron and l'Hôte of an outbreak of lead poisoning in which twenty-six persons were affected. Two of the cases proved fatal. The disease was traced to the presence of lead in brine in which butter was kept. Six specimens were analyzed, and found to contain amounts of the chloride of lead corresponding to from 2.3 to 7.5 grammes of sugar of lead to the litre of brine. Lead was detected in the intestines, liver, and brain of those who died. The existence of lead in the brain in cases of chronic poisoning has been denied by many authors. In the above cases, however, all the proper precautions were taken in performing the analyses, and the metal itself was extracted and weighed, so that there can be no doubt of its existence in that organ in some cases.

Dr. A. Manouvriez (*Recherches cliniques sur l'Intoxication saturnine locale et directe par Absorption cutanée*, Paris, 1874), reports in detail thirty cases of chronic lead poisoning, from the study of which he draws the following conclusions:—

"1. In addition to general and indirect poisoning by digestive and pulmonary absorption, there exists a local and direct intoxication by cutaneous absorption, affecting the parts in immediate contact with the lead.

"2. This local intoxication manifests itself by neuralgic pains both articular and muscular, by cramps, trembling, tingling sensations, sensory and motor paralysis, and atrophy.

"3. This local affection, which in most cases coexists with the general affection, can nevertheless in certain cases exist alone.

"4. These local symptoms can advantageously be combated by local external treatment, and prevented by hygienic precautions which keep the skin from contact with the lead preparation.

"5. The greatest caution is necessary in the employment of medicinal preparations containing lead local applications to the skin."

Of the thirty cases reported, eight handled lead in the metallic form, as plumbers and type-setters, and twenty-two handled it in the form of white lead and minium. Three of the patients presented no symptoms of the general affection, no colic, no constipation, and no blue lines upon the gums.

In painters the local symptoms predominated upon the forearm, affecting preferably the right side in those who were right-handed, and the left side in those who were left-handed. The symptoms, which were located exclusively or predominated at the points of contact with the lead, were motor paralysis (in twenty-two cases), paralysis of sensibility to pain (in twenty-seven) to touch and to temperature (in twenty-six), and to tickling (in twenty-two), trembling (in seven), cramps (in eight), pain (in nine), and tingling sensations (in four). After taking a sulphur-bath, the skin at the points of contact with the metal was coloured black in eight cases, although no colouration could be seen previously to taking the bath.—*London Med. Record*, Feb. 10, 1875.

On the Medico-Legal Diagnosis of Poisoning by Carbonic Oxide.

JÄDERHOLM (*Nordiskt Medicinskt Arkiv*, vol. vi. Nos. 11 and 21) says that the most certain means for detecting this form of poisoning will always be the actual demonstration of the poisonous gas in the blood. To this end, three methods have been proposed, viz.: (1) The spectroscopic examination of the blood; (2) the reaction with caustic soda; and (3) "aspiration," with the reaction by chloride of palladium (Eulenburg.)

To test these methods, and especially to determine how long after death they are still applicable, the author killed seven small dogs and rabbits by carbonic oxide, either pure or in the form of coal-gas, and examined the bodies either immediately or at various intervals (up to one or more months) after death: the blood being in some cases exposed to the air, in others contained in closed vessels, and either pure or mixed with solution of borax, which has no effect on the spectroscopic characters. When secluded from the air, the blood showed the spectroscopic reaction due to carbonic oxide, even four or five months after death; but, if it be exposed to the air, the gas soon escapes.

With regard to the spectroscopic results, the author notices the following points. The absorption-band of reduced hæmoglobin does not occur precisely between the two bands of oxyhæmoglobin, since the absorption of hæmoglobin extends further towards the red after reduction than before; which is important when the reduction is (as it always is in this case) partial. The author prefers, as a reducing agent, the alkaline solution of ferrous tartrate used by Stokes. He has attempted to ascertain the precise position of the absorption-bands, and finds that the middle of the band α in ordinary blood corresponds to a wave length of 5730, the middle of β to 5370. In blood affected by carbonic oxide, the middle wave-length of α is 5690, and of β 5340.

The reaction of blood with caustic soda, proposed by Hoppe-Seyler, is also valuable. Ordinary blood, shaken up with this reagent, gives a brownish-green precipitate, and carbonic oxide-blood a red compound; but both pass, after a time, into red solutions, similar in appearance, but giving different spectroscopic reactions. In the red solution thus obtained from normal blood, hæmoglobin is transformed into reduced hæmatin (of Stokes) while in the carbonic blood the colour is due to the presence of a combination of carbonic acid with hæmatin or carbonic oxide hæmatin, the existence of which has been already pointed out by Popoff, though reduced hæmatin is also present. The spectrum of this solution is accordingly compounded of the spectrum of reduced hæmatin and that of carbonic oxide hæmatin. The spectrum of carbonic oxide hæmatin itself resembles that of oxygenated or carbonic oxide blood; but the two absorption-bands are paler and nearly equal in strength. The red liquid called by Hoppe-Seyler "hæmochromogene," prepared by adding (without access of air) caustic soda to a solution of hæmoglobin already reduced by hydrogen, may be shown, the author says, to be nothing but Stokes's reduced hæmatin in alkaline solution.

Jäderholm cannot confirm the statement of Eulenburg and Vohl, that ferri-cyanide of potassium is a specific reagent for carbonic oxide blood; nor has he obtained satisfactory results from Eulenburg's method of aspiration.—*London Med. Record*, April 14, 1875.

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(For List of Contents see last page.)

JULY, 1875.

Anatomy and Physiology.

On a Pharyngeal Diverticulum.

In the current number of the *Journal of Anatomy and Physiology*, Prof. WATSON records an extremely rare, in fact, an apparently unique occurrence of a diverticulum connected with the pharynx. This was found in an adult male human subject. Beneath the deep cervical fascia covering the anterior triangular space, on the right side of the neck, a muscular tube was seen to extend from beneath the tendon of the digastric muscle, which crossed it superficially, as far as the interclavicular notch of the manubrium sterni. This structure, at its proximal end, communicated with the pharynx just above the level of the stylo-pharyngeus muscle, by a narrow slit-like orifice in the free margin of the posterior pillar of the fauces, immediately behind the tonsil; while distally it terminated in a dilated *cul de-sac* containing a quantity of grumous material. The tube intervened, in fact, between the stylo-pharyngeus muscle and the glosso-pharyngeal nerve—structures which, in the normal disposition of the parts, are closely applied to one another. Its vascular supply was derived from the occipital and inferior thyroid arteries, while its nerves were contributed by the glosso-pharyngeal. Histologically it was composed of only two coats—an internal tough mucous lining, resembling that of the œsophagus, and a layer of longitudinal fibres, mostly of red striated muscular tissue; circularly arranged fibres, such as are found in other portions of the digestive tract, being altogether absent. As regards the teratology of this abnormality, the position of the pharyngeal opening points to some modification in the closure of the first postmandibular cleft of the embryo.—*London Med. Record*, May 12, 1875.

On the Consequences of Section of the Optic Nerve in the Frog.

W. KRENCHER (*Von Gräfe's Archiv*, 1874) says that Berlin found that after section of the optic nerve in the frog, degeneration of the nerve-fibres to their most extreme intraocular terminations occurred. Berlin suggested that this was not due merely to the section of the nerves, but to the division of the bloodvessels by his method of operating. The author confirms Berlin's results completely, and shows further, by intracranial section (whereby the vessels are uninjured), the correctness of the above assumption. Krenchel found that in frogs, six months after the operation, no change in the eye either macroscopically or microscopically was to be detected; on the contrary, he found that several times in the almost always completely-divided optic nerve, degeneration of the nerve-fibres for one to two millimètres from the point of section had taken place. It is very remarkable that the mobility of the pupil for the action of light is not in the least diminished by intracranial section of the optic nerve.—*London Med. Record*, June 2, 1875.

On Heart-Sounds.

M. DEZAUTIÈRE laid before the Paris Academy of Sciences, at their meeting of April 13, a note in which he says (*Bulletin de Thérapeutique*, April 30) that the sounds of the heart are produced by the rapid and violent contraction of the ventricles, each rapid and violent contraction producing a sound. If the expression may be allowed, it is a sound *à priori* and not *à posteriori*, primary, and not consecutive, as is generally believed. The structure of the auricles does not allow contraction; besides, contraction of the auricles is not necessary, the blood descends naturally into the ventricles by its own weight. The contraction of the auricles would be dangerous, inasmuch as it might drive back the blood into the venæ cavæ and the pulmonary veins. The second impulse is produced by the contraction of the right ventricle.—*London Med. Record*, June 2, 1875.

Ligature of the Bile-duct, and on the Blood in Diffuse Hepatitis.

MESSRS. FELTZ and RITTER show, in a note laid before the Académie des Sciences, April 12 (*Bulletin Général de Thérapeutique*, April 30), from a series of nine experiments of ligature of the bile-duct, that the blood is more or less altered, in consequence of the resorption of the biliary salts and of their shorter or longer retention in the blood. The blood-corpuscles become diffuent; the hæmoglobine transudes, and even crystallizes; fatty granules in considerable quantity, and crystals of cholesterine accumulate in the serum. The change in the blood varies with the amount of biliary acid shown by chemical analysis to be present in it. The jaundice does not depend either on biliary salts or on their transformation, but on the retention of the colouring matter. The absorption of the biliary salts has a limit, for the biliary secretion itself diminishes so soon as the dilatation of the secretory canals and canaliculi becomes considerable, and the epithelium of these tubules falls into a state of granulo-fatty degeneration, under the influence of the great increase of pressure within them. This modification of the secretion explains the rarity of nervous and hemorrhagic accidents in hepatogenous icterus. In this respect there is a great difference between acholic and polycholic icterus.

The authors have in one instance been able to produce the serious incidents of diffused hepatitis by artificial retention of the bile, and in this case they found an amount of biliary salts varying from ten to eleven thousandths in the blood. Taking clinical ground and comparing the pathological forms of icterus with those they have been able to produce artificially, either by biliary injections or the ligature of the common bile-duct, the authors admit that there occurs in every icterus a moment in which the presence of biliary salts in the blood cannot be doubted, and that the nervous or hemorrhagic accidents of diffused hepatitis depend in a great measure on the proportion of biliary salts accumulated in the blood. The general conclusion of all their experimental and clinical data is to establish unquestionably that the absorption of the biliary salts plays the principal part in all cases of diffuse hepatitis. Blood-poisoning is the characteristic of all so-called bilious states, whatever may be the multiple lesions of the splanchnic organs which give rise to or which depend on them.

In the future, morphological and chemical modification of the blood should be sought for in diffuse hepatitis, and even in yellow fever. MM. Feltz and Ritter are entirely convinced that by this method it will eventually be rigorously demonstrated that every malignant bilious condition, of whatever nature, originates in the accumulation in the blood of a too considerable quantity of biliary salts, which act as destroyers of the red blood-corpuscles.—*London Med. Record*, June 2, 1875.

Materia Medica and Therapeutics.

The Local Use of Chloral Hydrate.

CHARLES A. PEABODY, House Surgeon to the City Hospital, at Worcester, Mass., makes the following report of his experience with the local use of chloral (*Canada Med. Record*, May, 1875).

I began to use chloral externally about ten months ago in Dispensary practice, experimentally. In this I was associated with Dr. E. Warner, also of the Dispensary staff.

It was first tried in a 5 grain solution, on a small unhealthy ulcer of the leg, with most gratifying result; the dirty unhealthy surface of the sore became clean, healthy granulations sprang up, and the ulcer was soon healed.

After this many ulcers of this kind were treated in this way, and with uniform success, they beginning at once to assume a healthy aspect and soon healing. It was found advisable, however, usually to reduce the strength of the solution to 3 grs. to the ounce of water, after the first two or three days, as it seemed to be then too stimulating.

Encouraged by this success we began to extend its use to chronic eczema, one very aggravated case of which I have in mind, which was at once much relieved, and within two weeks almost entirely cured. In this case a three grain solution was used from the first, and no other application whatever was allowed.

I have also found it to be, in varying strength, a most excellent application in cases of offensive perspiration and offensive discharge. It has not the powerful and persistent odour of carbolic acid, and is in many cases to be preferred.

In hospital practice the chloral wash has not disappointed my expectations. I have in mind two cases where its good effects were very marked. The first case was an amputation of the thigh, performed for disease of the limb. The wound was dressed with carbolic acid; the flaps did not unite at all, but the cut surfaces assumed, after a few days, an unhealthy look, and became covered with patches of membranous character. Chloral 4 grs. to the ounce was applied, and the very next day all the membranous patches had disappeared, the wound began to look healthy, and granulations were seen springing up over nearly all its surface.

The other case is in hospital now: the foot was amputated through the metatarsal bones for railroad injury. The healing process progressed slowly for a while, and then seemed to come to a stand-still, and for two weeks no progress whatever could be detected, but the surface of the wound assumed a dirty, unhealthy appearance. Then a 5 gr. chloral wash was applied with immediate good effect. The next day the wound looked healthy, and the process of repair seems now, after three days' use of the chloral, to be fairly started into activity.

Thus, I have briefly indicated the results upon which I base my very favourable opinion of chloral as an external application. Of course, if used indiscriminately and unskillfully, it may disappoint, but it has its place, and if intelligently and judiciously used will not fail, I think, of giving very general satisfaction.

There are a few points worthy of notice in which chloral in solution compares favourably with carbolic acid; these are as follows:—

1. It does not have the unpleasant smell of carbolic acid, while it is yet a very excellent deodorizer and antiseptic; it will even, in great measure, deodorize carbolic acid itself.
2. It is a much neater and cleaner dressing than the carbolized oil which is so frequently used.
3. It does not stain or rather fix stains, as carbolic acid does; an important consideration where sheets, etc., are of any value.
4. It does not "kill granulations" as carbolic acid does, but stimulates them.

Conium, and its Use in Diseases of the Eye.

Dr. EDWARD CURTIS read before the Medical Society of the county of New York (*New York Med. Journ.*, June, 1875) a valuable paper on conium, particularly in regard to its use in blepharospasm, giving, at the same time, its results upon himself. He said that its poisonous effects were understood in ancient times, but that it passed into disuse. Its use was revived one hundred years ago, but again passed into neglect. This was mainly due to the fact that from the volatility of its active principle much discrepancy occurred in the accounts of different observers. Conium belongs to a group of narcotics, which includes *Calabar bean*, *yellow jasmine*, and *curare*. In small doses, it exerts its paralytic effect on the terminal branches of the nerves distributed in the muscles, but in larger doses this effect extends to the anterior columns of the spinal cord. It has a special effect on the cranial nerves distributed to the eyeball. No effect is produced on the sensory nerves when administered internally, but, when applied to the terminal branches, as in cancer, it has the effect of controlling pain. Conium in moderate doses has no effect on the intellect. A very important question is, Does it affect the heart, causing paralysis, like curare? Experiments go to show that, when an animal is killed by conium, the heart still beats. The most common symptoms found, after taking an average dose of a reliable preparation of conium, are giddiness and nausea, with loss of power of muscles. The drug is quickly absorbed, and readily eliminated. Dr. Curtis said that he took thirty minims of Dr. Squibb's preparation, and in ten minutes began to feel its effect. In fifteen minutes it was at its height, and in another fifteen minutes it was gone. After an hour all trace of its effect had disappeared. When taken in larger amount, all trace of it vanished after three or four hours. Dr. Curtis at some length proposed to prove that the giddiness and nausea were the result of the paresis, and in this respect the effect was analogous to sea-sickness. The main point of interest of the paper was the consideration of its use in blepharospasm, and especially so from its poisonous effects upon a patient in Brooklyn. Blepharospasm is usually caused by inflammation of some portion of the eye, and in this way the third cranial nerve, as well as the *portio dura*, is involved; and, for relief, conium suggests itself as a remedy; from its well-known effect on the cranial nerves.

The first case on which Dr. Curtis used it was a patient aged twenty-three, and an inmate of the New York Eye and Ear Infirmary. He had received an injury of the eye, which was followed by conjunctivitis and iritis, accompanied by blepharospasm. Atropia had been applied with morphia internally, but after five days no effect had been produced on the iris. He was then ordered forty minims of Dr. Squibb's fluid extract of conium, and in half an hour the spasm was relieved, and the patient passed into a quiet sleep, which lasted four hours; on waking, the pain and spasm reappeared. On the next day thirty minims were given, and after two hours the patient was relieved, and on this occasion the good effect was more constant. Atropia was again used, with the result of dilating the iris. Thirty minims were given on the following day, but without the benefit derived from the previous administration of the drug. Forty minims were ordered on the two succeeding days, with moderate benefit. The conium was then discontinued, and it was found that all the bad symptoms returned. It was again had recourse to, in forty-minim doses, but increased in three days to fifty and sixty minim doses. Iodide of potassium was then administered, as the patient was suspected of having a specific element in the case, and shortly afterward the patient got perfectly well. Some time later an operation was performed on the iris, when all of the bad symptoms returned. Conium was again had recourse to, with a result similar to that obtained previously. Dr. Pomeroy had a patient nine years of age with blepharospasm, and on the administration of ten drops of the preparation of conium the blepharospasm was so far relieved as to allow of the eye being opened in twenty-five minutes, and in forty minutes the disease was completely cured, and did not return. Dr. Loring gave it to a patient in two doses of thirty minims each. In an hour after the second dose the patient was very much relieved. It was

then continued, in forty-minim doses, every day. Conium was again tried in the case of a young girl suffering from granular lids, but without any special effect. Lastly, it was taken by a patient in Brooklyn suffering from facial spasm, but without avail. This case was not one of simple blepharospasm, and therefore not a fair case to test its powers. Dr. Curtis said the subject of conium was brought up to prevent a prejudice being formed against the drug by the unfortunate death of the patient in Brooklyn.

Dr. E. R. SQUIBB said the conium fruit is strongest in the alkaloid just before ripening; in this respect it is analogous to the poppy. When the plant is young it has no effect, and when it has attained its maturity it is by no means so potent as it is immediately before. Climate has a very important influence on it. In Russia it is used by the people as an article of diet, whereas in Italy it is a deadly poison. There is no special skill required in making the fluid extract, beyond being careful in not using heat in its preparation beyond what is necessary to dry the fruit. The fruit itself does not deteriorate to any great extent if it is kept dry, but, as with ergot, moisture has a bad effect on it.

There was a valuable preparation to be obtained some years ago, which was manufactured at New Haven. It was a sun-dried extract, containing enough of alcohol to keep it. Latterly it has lost its reputation, from the fact that with the increasing demand the proper care has not been taken in its manufacture.

There are other valuable uses to which conium might be applied. It has a quieting influence on the respiratory mucous membrane, and for this reason can be used with great advantage in senile bronchitis. As a local application in cancer it is exceedingly beneficial in quieting the pain. In cases where it has failed to prove of service the cause in all probability has been due to a bad preparation.

The manner of applying it is to soak a rag in the fluid extract and hold it up till the alcohol has evaporated, then apply it to the sore.

Dr. AGNEW said the patient in Brooklyn, upon whom conium proved fatal, was suffering from blepharo-facial spasm. Ten years ago the disease first appeared, with double vision, and slight spasm of the orbicularis muscle. After eight or nine years he received an injury of the orbit of the left eye, and from that time he developed blepharo-facial spasm. Eighteen months ago he consulted Dr. Brown-Séquard, who, after using counter-irritants, the bromides, opium, strychnia, and Calabar bean, removed the supra-orbital and supra-trochlear nerves, but without any good effect. Dr. Agnew obtained a transient benefit from canthoplasty. He then tried the fluid extract of the conium leaves, administering one hundred and twenty drops within three hours, but without any benefit. Later in the day the patient used Dr. Squibb's preparation, and, as was recorded in the papers, died from the effects of it. The cause of the disease in the beginning was centric, but after some months conjunctivitis developed as a secondary affection.

Dr. MANLIS SMITH related the case of a patient who took half an ounce of the fluid extract at 9 P. M. At 11 P. M. he was speechless. One-twelfth of a grain of strychnia was given hypodermically, and in ten minutes he opened his eyes. After twelve hours all effect of the conium had disappeared. The stomach had been evacuated by an emetic of mustard. Dr. Smith mentioned the case to show the efficacy of strychnia in counteracting the influence of conia.

Chloroform and Nitrite of Amyl.

Dr. F. A. BURRALL, of New York, recalls (*Med. Record*, May 22, 1875) the fact that in the *Medical Times and Gazette* of December 12, 1874, is an account of some experiments by Dr. Schüller, made for the purpose of determining the action of certain drugs upon the vessels of the pia mater. It is stated that "after the inhalation of chloroform the veins and arteries of the pia mater at first contract, but they very soon become relaxed, and considerable venous congestion follows. Dr. Schüller has made the interesting observation

that nitrite of amyl not only quickly removes the effects of chloroform on the vessels of the pia mater, but in cases of advanced narcotism from the latter drug, it rapidly relieves the dyspnoea and laboured respiration, and renews the strength of the pulse, while at the same time it restores the animal's reflex excitability in an astonishingly short space of time." The author of the communication to the *Medical Times and Gazette* then adds: "We are not aware whether nitrite of amyl has been tried in cases of danger from chloroform in man, but the above observation is worth remembering by those engaged in its administration, and it may possibly be the means of saving valuable lives."

Those who have struggled with sturdy patients through the maudlin inebriety which usually precedes the anæsthesia produced by ether, would fain prefer the brief excitement and calm slumber which are induced by chloroform. But chloroform has fallen into disfavour since so many deaths have attended its use. Children and parturient women have been found to bear it exceptionally well, and it is regarded as a comparatively safe anæsthetic for the field. But the mortality among others has been, as compared with similar agents, very large. Hence the inconvenience incident to the employment of ether do not counterbalance the risks of chloroform, and ether is preferred for general use. Perhaps Dr. Schüller's experiments will enlarge the field for the safe administration of chloroform.

Whether nitrite of amyl has been used to avert the dangers from chloroform in man I do not know, but it has long seemed to me, from *a priori* reasoning, to be indicated under such circumstances, and in a short paper on the nitrite of amyl which I sent to the *New York Medical Gazette* of June 11, 1870, I recommended its use in the following words: "*It would seem worthy of a trial in the threatened syncope from chloroform; since the inhalation of but a few drops is followed by marked acceleration of the heart and flushing of the face.*" In my own practice I have never had an opportunity of making the trial, but with this stronger light of recent investigations should consider it more than ever a duty to do so.

Evidently with these experiments of Dr. Schüller before us, science now demands that *whenever chloroform is administered, the nitrite of amyl should be at hand as one of the agents to be employed in case of impending danger.*

— On the Hemp and Gypsum Splint.

Dr. BEELY, in the *Berliner Klinische Wochenschrift*, No. 14, 1875, directs attention to a new kind of splint, which during the past twelve months has been extensively used by Professor Schönborn, of Königsberg. The materials used in the composition of this splint are heckled hemp, the fibres of which must be arranged as parallel as possible, and gypsum powder, such as is used in the ordinary gypsum bandage. Bundles of the hemp, each of about the thickness of the little finger, and of a length corresponding to that of the part to be covered, are dipped in a mixture of gypsum and water, and then applied side by side over the surface of the limb, which surface should have been previously oiled or covered by flannel. These splints speedily become dry and form a hard casing, closely applied to the whole surface of the limb. They can be readily strengthened by the subsequent addition of other bundles of hemp saturated in the same way by gypsum and water, and may be rendered waterproof by painting over their surface an alcoholic solution of shellac. When it is necessary to apply a splint of this kind to the posterior surface of the leg or thigh, and the patient cannot turn over so as to place this surface uppermost, the bundles of hemp, after mixture with gypsum, should be kept in contact with the limb by means of a flannel bandage. The advantages which this is alleged to possess over other fixed splints of different composition are its cheapness, the facility of its application, its durability, its porosity, and the rapidity with which it becomes dry and firm. Dr. Beely thinks that it would prove a very useful application when a patient suffering from fracture or gunshot wound has to be moved, and that gangrene would be less likely to occur than from the use of the ordinary gypsum splint. In Professor Schönborn's

practice this form of splint has been applied in about fifty cases, and generally with good results; the injuries and diseased conditions thus treated having been simple and compound fractures, articular affections, injuries to tendons, and deep wounds of soft parts in limbs, rachitic deformities and club-foot, and flat foot.—*London Med. Record*, April 28, 1875.

Medicine.

On Two Interesting Cases of Variola.

The first of these cases, which are reported by Dr. EMMANUEL KRAMER in the *Vierteiljahrsschrift für Dermatologie und Syphilis* (1874), was that of a young man, aged seventeen, admitted to the smallpox hospital at Vienna on June 13, 1874, on the fourth day of his attack. Vesicles were disseminated all over the body, and were beginning to change into pustules here and there. There was diffused erythema all over the body, most intense at the level of the right femoral triangle; it disappeared on the 15th. On the 17th, the eighth day of the illness, there was a scarlatinous redness of the whole body, deepest on the pelvis, arms, and thighs. Redness, with punctured ecchymoses on the velum palati and adenitis of the cervical glands, especially on the left side, were also present. Some of the variolous pustules were in a state of suppuration, whilst others were already dried up. The urine contained albumen. Temperature 103.6° Fahr. On the 18th the variolous eruption was dried up; there was double submaxillary adenitis, with a little albumen in the urine. Temperature 104.72° Fahr. On the 20th there was a miliary eruption at the bend of the elbow; on the 23d the scarlatinous eruption began to desquamate; on the 27th erysipelas of the face made its appearance, but disappeared very rapidly. Convalescence set in at the beginning of July, but the patient had two attacks of erysipelas in the face, one on July 20, the other on the 29th; both, however, were extremely mild and almost apyretic.

The second case was one of variola immediately consecutive on a previous attack. The patient was a young man, aged eighteen, who came into the smallpox hospital on the fifth day of an attack of variola discreta. The pustules began to dry up at the end of a week. On the sixteenth day after the appearance of the disease the patient had violent shivering, a temperature of 103.8° Fahr. and lumbar rachialgia. On the twenty-ninth day there was diffused generalized erythema, and at night the fever rose to forty degrees. On the thirty-first day variolous efflorescences made their appearance on the face, hands, and feet. The first signs of the drying up of the fresh eruption appeared on the face on the thirty-fourth day, and recovery ensued without any accident.—*London Med. Record*, May 5, 1875.

On Eserine as a Remedy for Chorea.

M. BOUCHUT (*Bulletin Général de Thérapeutique*, April 15, 1875) gives the results of 437 experiments performed with the active principle of the Calabar bean. The eserine was employed either pure or in the form of sulphate. It was sometimes administered by the mouth, in solution or in pill, sometimes hypodermically; the dose in each case varying from two to five milligrammes ($\frac{1}{3}$ to $\frac{1}{14}$ of a grain). The subjects of experiment were children from seven to twelve years of age suffering from chorea in all its stages and varieties.

The physiological effects produced by a single dose of five milligrammes of eserine injected under the skin were the following: pallor, nausea, salivation, intense *malaise*, occasionally vomiting. No colic or diarrhœa occurred. The pupils often remained unaffected: they were sometimes dilated, sometimes

contracted, but always active. Abundant perspiration was frequently noticed. The retinal veins were contracted and the fundus of the eye pale. The most serious and disagreeable symptom which occurred was an enfeeblement or even paralysis of the diaphragm. These symptoms lasted from one to three hours after the injection; no unpleasant sequelæ were observed.

The phenomena produced by smaller doses, subcutaneously administered, or by the same dose introduced into the stomach, were similar in kind, but much less intense. The most suitable dose for hypodermic use is two and a half milligrammes ($\frac{1}{28}$ of a grain); this never causes any very disagreeable effects, and may be repeated twice or three times a day.

Next, as regards the remedial efficacy of the drug, the choreic movements are invariably arrested so long as the physiological effect of the injection lasts; when this has passed off, they return, but usually in a less severe form. Daily injections cure the disease in an average period of ten days.—*London Med. Record*, May 12, 1875.

The Pathology of Progressive Muscular Atrophy.

A valuable and interesting communication on this subject has been recently brought before the Société Anatomique of Paris, by Dr. TROISIER. The patient was a male, 27 years of age, in whom loss of motor power, with atrophy of the muscles of the upper limbs, began fifteen months before death, the muscles of the right shoulder being first affected; the fatal termination was due to involvement of the intercostals and diaphragm. There was found simple atrophy, without loss of striation of many of the fibres of the latissimi, trapezii, rhomboids, complexus, and pectorals; together with an increased amount of interstitial tissue and fat. The atrophied fibres measured from 0.009 mm. to 0.004 mm., instead of 0.025 mm. to 0.03 mm., the normal breadth. Both roots of the spinal accessory and the root of the hypoglossal nerve were atrophied, gray, and translucent; the microscope showing simple atrophy of their fibres with preservation of myeline. There was a similar change in the eight upper anterior spinal roots, most marked on the right side; the posterior roots being intact. Thickening and pigmentation of the pia mater were present in the upper part of the cord, from the medulla to the lower termination of the cervical enlargement. Examination of the spinal cord showed almost entire absence of the characteristic large-branched nerve-cells in the anterior cornua, a few atrophied cells still provided with processes alone remaining. All, however, possessed nuclei, some much pigmented. Scantly granular masses represented those which had disappeared. These changes were more marked in the right than left side, and were limited almost entirely to the cervical region of the cord, but atrophied cells were met with in dorsal and lumbar regions to a small extent. The central canal was blocked by proliferated epithelium; no change in the spinal accessory or hypoglossal nuclei in the medulla; Clarke's columns, the posterior gray cornua, and the white substance were natural; the right circumflex nerve close to the entrance into the deltoid presented a number of medullated fibres half the size of others; the sympathetic trunk and ganglia were natural. Dr. Troisier pointed out that this was a good example of protopathic progressive muscular atrophy, and thought that the absence of proliferation of the neuroglia nuclei proved it to have arisen in a sub-inflammatory condition of the gray matter itself, the atrophy of the cells in the anterior cornua being the primary lesion, and the changes in the nerves secondary. Moreover, the change in the muscles was one of simple atrophy unaccompanied by the multiplication of nuclei of the sarcolemma, to which Hayem has drawn attention. Dr. Charcot remarked on the value of the case, of which this formed the fourth, as showing the relation between lesions of the anterior cornua and progressive muscular atrophy. More cases of muscular atrophy (deuterothatic) resulting from extension of lateral sclerosis to the anterior cornua were on record. He had never seen fatty degeneration of muscular fibres in progressive muscular atrophy, and believed that observers had frequently mistaken interstitial lipomatosis for such degeneration.—*Lancet*, May 29, 1875.

On a Case of Atrophy of the Right Thenar Eminence with Lesion of the Spinal Cord.

The following case is reported by J. L. PREVOST and C. DAVID of the cantonal hospital at Geneva (*Archives de Physiologie*, September, 1874). M. Prevost observes that it constitutes a fresh example of the muscular atrophy limited to one group of muscles, and having a corresponding limited lesion of the spinal cord. In 1865, the author presented an example of atrophy of the muscles of the leg, with lesion of the gray matter of the anterior horn of the same side. Until then, he adds, no observer had pointed out, as traced by himself and M. Vulpian, the disappearance of nerve-cells from the external group in the anterior horn, in muscular atrophy. Subsequently this connection has repeatedly been noticed, both pathologically and experimentally produced. Dr. Prevost sums up the lesions as consisting of, 1. Distinct atrophy of the right anterior root of the eighth pair of cervical nerves; 2. Slightly marked atrophy of the right anterior root of the seventh cervical nerves; 3. Atrophy of the gray matter of the anterior horn at this level, extending two or three centimètres in length (about one inch).

Louis F., sixty years of age, piano-forte-maker, was admitted March 26, 1874, with a wound of the scalp, and died with putrid fever on April 7. He asserted that the atrophy of his thumb had existed from infancy, that he had not suffered any pain from it, but had not been able to execute the movements of opposition. On *post-mortem* examination, the thenar muscles were found to have been transformed into thin masses of white fatty substance. Some few muscular fibres could be isolated. In these the striæ still existed; in other parts there remained only large fat-cells, limited by connective tissue. On the palmar face of the eminence a thin layer of muscular structure was found, probably the remains of the adductor pollicis. The first dorsal interosseous muscle, along the border of the index metacarpal bone, was completely atrophied and transformed into fat. All other muscles of the hand and forearm were perfectly healthy. The hypothenar eminence in particular was observed to be intact.

The only abnormal appearance in the nerves of the affected limb was an excess of connective tissue in those supplying the thenar eminence. The roots of the eighth cervical nerves at their exit from the spine on the right were much more slender and contained fewer fibres than on the left side. Corresponding with this diminution of the nerve-roots were certain changes in the gray matter of the spinal cord. These changes were evident to the naked eye, consisting in a manifest diminution of the size of the anterior horn on the right side, the difference being less above and below, until it merged into the normal structure. At the level of the eighth nerve there were but a scattered few of the cells of the external group, in the anterior horn. Departing from this point, upwards and downwards, the nerve-cells were observed to be reduced, in some parts, to a mere trace of their structure. At the seat of this lesion of the cells the substance of the cord was altered, presenting a granular fibrillated character, remarkably fragile, and taking the carmine tint deeply. So brittle was the cord at this point, that it was almost impossible to obtain perfect sections. This brittleness occasioned tearing and fissures recalling to the mind of the authors the appearances described by Dr. Lockhart Clarke as "granular disintegration." The white substance of the cord on the right side appeared to have undergone a slight or incipient degree of sclerosis. Amyloid bodies were in great numbers in the seat of this change. The posterior right horn was not affected beyond presenting a great number of amyloid bodies in the tracks of vessels. The central canal was filled with nuclei and corpora amylacea.

The preceding case, with its pathological history, is placed by the authors in the same category with others recorded by Cornil, Vulpian, Damaschino, Roger, Charcot, Joffroy, Pierret, Müller, Lockhart Clarke, Duchenne, Petit, and Roth. It proves, they hold, that lesions of the nerve-centres give rise to muscular atrophy, as confirmed by experiments in which the sequence occurred, and in the face of which, they hold, it is difficult to assign a secondary character to the medullary lesion. They admit that the original nature of the lesion cannot in the

present instance be determined. It is probable that the subject of these observations was addicted to drink, a condition favouring the premature degeneration of tissues. A physiological interest further attaches to the present case inasmuch as it serves to demonstrate the nervous supply to the thenar muscles to be from the eighth cervical nerve.

[A full and instructive narrative of a case of like nature to the preceding was communicated by Drs. Adamson and Oswald Bell to Beale's *Archives of Medicine*, vol. iii., accompanied by an elaborate exposition, from the pen of Dr. Lockhart Clarke, of the pathological changes found in the spinal cord. This history, thus published in 1861, was the first recorded account of the lesions of the nervous centres connected with muscular atrophy.]—*London Med. Record*. May 5, 1875.

On Auditory Vertigo.

We have already given an account of Menière's disease in our numbers for November and December, 1874. The subject, however, is one of such great practical importance that we present an abstract of a recent paper thereon. The reporter has published a case of Menière's disease in the *Lancet*, Nov. 21, and refers to it chiefly to acknowledge an important omission. We ought not to forget the work BROWN-SÉQUARD has done on this subject. At page 195, Séquard's *Lectures on the Physiology and Pathology of the Nervous System*, 1860, will be found an account of experiments on the auditory nerve, and clinical observations showing their bearing on practical medicine. Now that Menière's disease is attracting much attention, we shall be excused for reproducing the following. Its reproduction is not unnecessary, as many medical men are very incredulous as to there being any causative relation betwixt ear-disease and vertigo. Before we give the quotations, we ought to say that so far back as 1853 Dr. Brown-Séquard (*Experimental and Clinical Researches applied to Physiology and Pathology*, New York) had shown by experiments that the auditory nerves have a most remarkable power over the nervous centres.

The persistent spasmodic contractions due to a mechanical injury to certain parts of the nervous centres are always curious, but never so much so as when they result from some irritation of a part like the auditory nerve, which we were accustomed to consider simply as a nerve of sense. M. Flourens (*Recherches sur les Propriétés et les Fonctions du Système Nerveux*, 2de éd., 1842, p. 454 *et seq.*) has found that the section of semicircular canals in certain animals is followed by a strange disorder of movements, and sometimes by a rotation (circus movement). The reporter has ascertained that the phenomena observed in these experiments do not depend on the section of these canals, as this operation may not cause these phenomena, but that they are the result of an irritation of the auditory nerve from the drawing upon it by the membranous semicircular canals when they are divided. In frogs and in mammals the direct irritation of the auditory nerve is followed by the most interesting phenomena. It is well known that in frogs the peripheric extremity of this nerve is inclosed in a bag containing carbonate of lime. As soon as this bag is laid bare and slightly touched, and still more if it be punctured with a needle or a bistoury, the anterior limb, on the opposite side, is thrown into a state of slight convulsion, and kept almost constantly in a spasmodic pronation; and almost at every attempt to move forwards the animal turns round on the side injured. As long as it lives (many days, or even many months) these phenomena may be observed, although not quite so marked as immediately after the injury, or after the first twenty-four hours. In mammals, the least puncture of the auditory nerve causes rolling, just as after the irritation of the processus cerebelli ad pontem; violent convulsions then occur in the eyes, the face, and many muscles of the neck and chest. The doctrine that the nerves of the higher senses are not endowed with general sensibility (*i.e.*, are not able to cause pain) seems not to be true with regard to the acoustic nerve; at least, the signs of pain given after an irritation of this pretended nerve are often as great as those observed after an irritation of the trunk of the trigeminal nerve.

In man also the auditory nerve seems to be able to act as it does after an injury in animals. 1. Any one who has received an injection of cold water in the ear may know that it produces a kind of vertigo, and that it is difficult to walk straight for some time after this irritation. 2. A sudden noise makes the whole body jump, particularly in old people, or in persons attacked with anæmia, chlorosis, epilepsy, chorea, hysteria, hydrophobia, and in certain cases of poisoning; in a word, in all circumstances in which the control of the will over reflex actions is lost or diminished. 3. Vertigo and various convulsive movements, in cases of irritation of the acoustic nerve,¹ have been observed in adults and children. Rotatory movements have taken place in cases of suppurative inflammation of the ear, and twice immediately after an injection of a solution of nitrate of silver (see the case of Professor Burggræve, recorded by himself²). A most eminent military man, we are told, has twice been seized with rotatory convulsions after injections in the ear. Quite recently Mr. Hinton has read a paper to one of the London medical societies, in which he relates several cases of convulsions in children without any other visible alteration after death except in the ear. We could point out several other facts to prove that irritation of the auditory nerve may cause vertigo, rotatory movements, and various other kinds of convulsions; but we think we have said enough to call the attention of practitioners to this subject, and this was our principal object. We will only add a few words more to say that the causes of rotatory movements are numerous, and that besides the one which is the principal in most cases (and that is the spasm produced in some muscles, as has been already said) there is a cause similar to that of simple vertigo, depending upon anæmia, or generated by an irritation upon some centripetal nerve (as for instance, in cases of gastralgia), and producing a contraction of some bloodvessels of the brain, by a reflex action, and this cause is the insufficiency of blood and the consequent alteration in the nutrition of certain parts of the brain.

The literature and current knowledge of this subject are succinctly presented by Dr. LABADIE-LAGRAVE, in some recent articles in the *Gazette Hebdomadaire*. In a brief historical résumé it is shown that, although isolated cases had been reported long ago by Vieussens, and by Itard, Toynbee, and others, it was not until the laborious researches of Menière that auditory vertigo was recognized as a distinct disease. Since then it has received full attention from numerous investigators, amongst whom may be mentioned Troussseau, who proposed the title *vertigo ab aure læso*; Duplay, who named it Menière's disease, a name subsequently adopted by Charcot, Hillairet, Politzer, Voltolini, Knapp, Hinton, and many others. The author insists that, although the disease derives its name from Menière, it is not to be forgotten that it is to the experiments of Flourens that we owe a rational explanation of the dependence of the symptoms on the labyrinthine lesion.

The outset is sudden. An individual in the midst of perfect health, and without appreciable cause, is seized with confusion, headache, tinnitus, and vertigo. His gait is uncertain and stumbling; when he rises objects seem to turn round him; he staggers as if the ground sank beneath his feet. He cannot keep his balance without support, and he executes involuntary movements which impel him in a certain direction. At the same time his hearing is affected; sometimes he can only hear certain sounds. The noises in the ears are very pronounced. He seems to hear the sound of an orchestra, ringing of bells, the rushing of a cascade, or the whistle of a locomotive. Charcot dwells on the intimate relation which exists between the sudden development of noises in the ears, or the sudden exacerbation of these noises, and the onset of the vertigo. Though tinnitus is a common accompaniment of various kinds of vertigo, its intensity and predominance from the very first are characteristic of Menière's disease.

The face is pale, the forehead bedewed with sweat, the skin cold. Then occur nausea and vomiting, which usually indicate the termination of the

¹ Walter and Lincke, quoted by Harles in article "Hören," in Wagner's *Handwörterbuch der Physiol.*, vol. iv., 1853, pp. 420, 423.

² *Gazette Méd. de Paris*, 1842, p. 25.

attack. The patient can obtain relief only by observing absolute rest in the horizontal position. There is no affection of speech, no spasm of face or extremities. Menière once saw spasm of the face followed by incomplete hemiplegia (on the same side as the affected ear), which disappeared in a few days. There is never tingling, numbness, nor any sensation analogous to an aura. These symptoms pass off after a variable time, and reappear sooner or later, each attack increasing the tinnitus and deafness, until the hearing is wholly lost.

The pathological conditions which give rise to auditory vertigo are sufficiently numerous, and some of them at least can be distinguished by the symptoms. In detail they are: 1. Vertigo from traumatic irritation; 2. Vertigo from galvanic excitation; where the electrodes are applied to the mastoid processes the head turns towards the positive pole; 3. Labyrinthine vertigo from internal otitis; of this the author distinguishes three kinds; 4. Vertigo from disease of the middle ear; 5. In rare instances vertigo occurs from obstruction of the auditory meatus; 6. Reflex vertigo; in some persons the access of a drop of water to the *membrana tympani* brings on a violent attack of giddiness.

Taking otitis labyrinthica as the lesion which gives rise to the most characteristic symptoms, the author proceeds to treat of these latter in two groups, according to the two divisions of the auditory nerve. The vertigo, the sense of rotation or the actual rotation, with their accompaniments, staggering, weakness, pallor, sweating, nausea, vomiting, and headache, are due to lesions of the semicircular canals. On the other hand, the tinnitus, and the gradual and finally complete loss of hearing, are owing to alterations of the cochlea.

To explain the deafness for certain sounds, the author adopts the hypothesis that a limited portion of the cochlea is injured in such cases; and that, as the injured fibres no longer vibrate in response to their corresponding sounds, no impression of these sounds reaches the nervous centre.—*London Med. Record*, May 12, 1875.

On Unilateral Paralysis of the Velum Palati of Central Origin.

Dr. DUMENIL (*Archives Générales de Médecine*, April, 1875) draws attention to this symptom, which, he observes, has hitherto possessed rather a physiological than a clinical interest, but which, he adds, should be traced to the different conditions giving rise thereto.

This symptom, according to Dr. Dumenil, is to be regarded as by no means uncommon, since he can himself collect at least a dozen examples. It has been spoken of as deviation of the uvula—an incorrect expression, inasmuch as it conveys the idea that the presence of this inclination is sufficient to show the presence of paralysis. It has been observed by Debrou that the uvula is inclined more or less from the middle line in many individuals, and hence the diagnostic value of this deviation is destroyed. There is, however, Dr. Dumenil points out, a more sure indication to be found in the unsymmetrical condition of the two halves of the isthmus of the pharynx during muscular action. The two halves when at rest will appear to be alike, but when, by touching the fauces, muscular contraction is excited, the asymmetry is evident. On the healthy side, the normal movements take place, on the other the parts remain without change. Dr. Dumenil adds that this is not a mere anomaly; he has verified the observation many times. It is not to be confounded with the results of paralysis of the facial.

A series of twelve cases is given in two categories: 1. Unilateral paralysis of the velum palati without appreciable paralysis of the facial muscles; 2. The concurrence of paralysis of the velum with facial paralysis.

The question arises in the mind of Dr. Dumenil whether the nervous filaments which supply the muscles of the velum palati have a distinct origin, or whether the pathological condition is restricted to a few filaments so closely adjoining that they may almost be regarded as having a common origin. The author further draws a comparison between the form of paralysis and that of the iris, which is observable in general paralysis, and which is undoubtedly of grave diagnostic import.

The value of this form of paralysis in diagnosis is fully borne out by the histories of the cases that accompany this essay by Dr. Dumenil; our space forbids their more extended notice. The lesion appears to be one of frequent occurrence, and one, the author remarks, that has not been recorded sufficiently often because it has not been carefully looked for. Dr. Dumenil takes the precaution to observe that he does not regard every unilateral paralysis of the velum as being of central origin. He eliminates lesions of the facial nerve in the aqueduct of Fallopius as one of the causes, which is readily distinguished by the effect of electricity. At the same time he points out that this last form of paralysis may be coincident with a central lesion. In one case, Dr. Dumenil states that he found the nerves of the velum destroyed by syphilitic ulceration of the parts.

The author does not proceed further to develop the diagnosis of different forms of facial paralysis; he contents himself with having brought into prominence what he considers to be a very important symptom of lesion of the nervous centres.—*London Med. Record*, May 12, 1875.

On Ipecacuanha Spray in Winter Cough and Bronchitic Asthma.

A considerably increased experience of this method of treatment has not only confirmed the previous statements of Dr. Sydney Ringer and Mr. Wm. Murrell (see *Monthly Abstract of Medical Science*, Dec. 1874, p. 255), but has added several new points of interest to our knowledge of the subject, a brief *résumé* of which Mr. MURRELL presents (*British Medical Journal*, May 29, 1875). The inhalation proves most useful in those cases in which the patient suffers from cough and dyspnoea on exertion during the winter, but is comparatively free from these symptoms in summer. The expectoration is usually abundant, and is often frothy and expelled with difficulty. There is never any true hæmoptysis, although the expectoration may be occasionally streaked with blood after a violent paroxysm of cough. This condition may be accompanied by considerable loss of flesh, lowness of spirits, and other symptoms, which quite incapacitate the patient from following his occupation during the winter months. In these cases, almost without exception, the patient either comes of an asthmatic or phthisical family, or he follows some employment which necessitates his exposure to cold, or wet, or dust. Many of these patients suffer from gout or chronic rheumatism. On making a physical examination of the chest, only a little emphysema may be detected, or there may be sibilus over both fronts and backs, with bubbling rhonchus at the bases. It is very necessary in these cases to ascertain the absence of organic cardiac mischief. A patient, who last year suffered from bronchial catarrh, and was greatly benefited by the ipecacuanha spray, applied for relief this winter. The old treatment was adopted with but little benefit; and, on a more careful investigation of the case, it appeared that the patient had, during her absence in the summer, suffered from rheumatic fever, and that the dyspnoea was due to mitral regurgitation. The spray has proved most successful in those cases of winter cough in which the dyspnoea is the prominent symptom. In true neurotic asthma, however, little or no benefit is derived from its employment, and it may even increase the frequency and duration of the paroxysmal attacks. The spray has been used with advantage in a few cases of phthisis, both in the early and in the advanced stages, but our experience upon this point has been limited.

The method of giving the inhalation may be now considered. In our earlier experiments, Richardson's double-balled spray-producer, such as is used for ether, was employed; but during the past winter the number of patients under treatment at the hospital has necessitated the employment of Siegle's steam spray-inhaler. The ipecacuanha wine was used either pure or variously diluted, the most usual strength being one part of the wine to one or two of water. The use of undiluted wine occasionally produces dryness of the throat and nausea, the latter symptom most frequently occurring in those cases in which the patient is not careful to expectorate the mixture of saliva and condensed spray which accumulates in the mouth. The quantity of wine used at each inhalation varied from a half to two drachms; in a few cases as much as an

ounce was given, but with no advantage over the smaller quantity. The Richardson's spray-producer atomized one minim at each squeeze of the ball, so that about 150 squeezes were usually given when a mixture of one in two was employed. The Siegle's apparatus, when fully at work, vaporizes a drachm in about three minutes. The inhalations were given daily, the patient usually requiring ten or twelve.

The benefit derived from the spray, though often prompt, is in many cases of several months' duration. All the patients under treatment last year who have returned this winter, have stated that they have been freer from cough and dyspnœa than usual during the summer months.

During the past winter, other drugs, including carbonate of ammonia, iodide of potassium, and tartar emetic, have been used in the form of spray in the treatment of these cases, but the results have not been satisfactory.

Jaborandi in Pleuritic Effusion.

M. CRÉQUY communicated to the Paris Société de Thérapeutique, at their meeting on March 10 (*Bulletin Générale de Thérapeutique*, March 30), the case of a man, aged fifty-five, who was attacked on January 10 with pleurisy of the left side. Notwithstanding treatment consisting of purgatives, diuretics, blisters, etc., the effusion increased daily, and the heart was displaced to the right side. Jaborandi was first administered on February 12, in a dose of five grammes (75 grains), which was repeated on February 13, 16, 18, 19, 22, 24, and 28, and March 1; under its influence the effusion was gradually reabsorbed, and each day a notable diminution was observed. The patient is now completely cured.

M. Dujardin de Savignac has sometimes employed jaborandi, and has remarked the facility with which this drug, even in small doses, induces vomiting. To remedy this inconvenience, M. Dujardin Beaumetz uses jaborandi as enemata in doses of 100 grammes of water. These enemata produce salivation and perspiration. In a recent case of uræmia, he used subcutaneous injections of jaborandi with advantage, concentrating into one gramme of liquid the infusion of three grammes of jaborandi leaves. These injections did not bring on any local irritation.—*London Med. Record*, April 21, 1875.

A Case of Paracentesis of the Pleura, Abdomen, and Pericardium.

This case is related in the *Giornale Veneto di Scienze Mediche* for March, 1875, by MM. FERRARI-BRAGO and VALTOSTA. On August 5, 1874, a man named Natale Ruffio, aged thirty-five, a weaver, was admitted into the civil hospital at Treviso. He was of middle height and slender make, with defective nutrition, wasted muscles, and a yellow-brown skin. Four months previously, after very fatiguing labour, he had been attacked with continued fever, accompanied with cough and copious expectoration, dyspnœa, swelling of the lower limbs, and extreme weakness. On examination there was found to be dulness over the whole left half of the chest, and the lower part of the right half. The breath-sound was bronchial and harsh on the left side, and exaggerated on the right. In the abdomen the spleen and liver, especially the former, were enlarged. The spleen reached the middle line, and extended a finger-breadth below the umbilicus. He had long resided in a damp dwelling, badly ventilated, and altogether unhealthy, and the symptoms and physical signs pointed to the existence of malarial cachexia. Restorative treatment was ordered, with digitalis, to strengthen the force of the circulation. Up to August 13 the state of the breathing did not cause much anxiety; but on the subsequent days he had urgent dyspnœa, amounting at last to orthopnœa; there was very extensive dulness on percussion, the vesicular murmur was lessened, and the beat of the heart was scarcely perceptible. No relief being obtained by stimulants and restoratives, the left side of the chest was tapped, and about two litres of fluid escaped. The patient felt relief for three days, but then again became worse, and the secretion of urine was suspended. The

puncture was therefore repeated, and gave exit to a litre and a half of serum; this was followed by relief which lasted about a month, during which time the patient became able to leave his bed, complained of little except a cough at night, and gained about three and a half pounds in weight. The spleen, however, remained enlarged; his breathing was not completely free, and his speech was always somewhat interrupted. Quinia and iron were given daily for about two months. The quantity of urine varied much, but there was never complete suppression. After this, iodide of potassium was given for a time, but was not well borne.

At the end of September, signs of abdominal effusion began to appear, being attended with scantiness of urine. His condition was again improved under the use of moderate doses of iodide of potassium, given for about a fortnight; but during the early part of November (perhaps in consequence of changes in the weather) severe respiratory symptoms set in, and were kept up by the pleural and pericardial effusion, and still more aggravated by the ascites. Drastics were given with the effect of producing copious alvine evacuations and reducing the effusion; so that, on November 14, the breathing was found to be more free in the right lung and in the posterior part of the left; but there was a harsh sound in the former, and the area of cardiac dulness was still enlarged. The patient himself said that he breathed more freely, and that he perceived a diminution of his abdomen.

About the middle of December the breathing again became difficult, the urine was scanty, and ascites had increased; paracentesis abdominis was, therefore, performed on December 17, and between fifty and sixty ounces of a citrine-yellow fluid were removed. The operation was at first followed by relief; but three days later the urine began to be scanty, and neither tonics nor digitalis improved the patient's condition. Painting with tincture of iodine was employed, but no good followed. Fever set in, at first erratic, but afterwards constant. The signs of effusion in the three cavities increased, and the general symptoms became much aggravated. Quinia and alcohol were given with only temporary relief. On December 30, paracentesis pericardii was performed by Dr. Valtosta. A fold of skin having been raised over the fifth intercostal space, an incision a little more than an inch long was made parallel to the ribs, in the centre of the space, commencing about two-fifths of an inch to the left of the sternum. The layers of muscle were then carefully divided, and an elastic dilatation was felt, which resisted a little under pressure, while the impulse of the apex of the heart could be indistinctly perceived. A puncture having been made in this, the point of a small trocar was introduced, and about ten ounces of fluid were removed, with immediate relief. On examination after the operation, the upward limit of dulness was found to be lower. The heart-beat could be felt, and the sounds heard, much more distinctly than before. The patient changed his position more easily; he was able to lie nearly horizontally; his pulse became full and strong; he slept well in the night, and for several hours the next day. After four days, however, signs of effusion in the pleura again appeared; and on January 4, more than eight ounces of fluid of the same character as before were removed by paracentesis. On the 9th, the urine became scanty; the temperature, after some oscillations, rose to 104°; and he had painful œdema and redness of the left buttock, hip, and leg, on which he had lain for some time. No relief was afforded by local remedies or quinia; his cough became very troublesome; the dyspnoea increased; and, after lying for twelve hours in a state of coma, he died on January 14.

At the necropsy, the body was found to be extremely emaciated, but not in a state of marasmus. On removing the cartilage of the fourth and fifth ribs on the left side, a very little purulent exudation was found between the layers of the pleura. The anterior surface of the pericardium was distended, had a yellowish colour, and presented a small point of the size of a pin's head, which, on the introduction of a probe, gave exit to serum. About two lines of serous exudation were found in the pleural cavities, mostly in the left. The left lung was strongly compressed towards the base of the thorax, and was scarcely one-third of its normal size. The right lung was more expanded, and contained

tubercles in various stages in the upper and middle lobes; there were no caverns. The pericardium extended from about 1.2 inches on the right margin of the sternum to about 2.75 inches on the left. On section, it was found to be four times as thick as natural; and about a litre and a half of citrine-yellow fluid escaped. The heart was somewhat enlarged, and was covered with white, glistening, adherent, fibrinous deposits. There was concentric hypertrophy of the left ventricle; the valves on both sides were healthy. There was a little serous fluid in the abdomen; the liver was enlarged, congested, and indurated; the spleen was remarkably enlarged, congested, and diffuent; the kidneys, especially the right, were rather hyperæmic.—*London Med. Record*, May 5, 1875.

A Case of Dilated Heart from Valvular Lesion, in which the Right Ventricle was Tapped by Error, not only without Harm, but with Relief of Symptoms.

Dr. GEORGE EVANS related the particulars of this case at a late meeting of the Clinical Society of London (*British Medical Journal*, May 29, 1875.) A woman aged 27 was admitted into the Middlesex Hospital, under his care, on February 22d, 1875. She was then suffering from acute rheumatism and heart-disease, probably the result of a former attack of the same disease. The area of præcordial dullness was increased; there were murmurs at base and apex, and there was considerable dyspnoea. By the 26th, the præcordial dullness had increased considerably; there was very obvious bulging of the chest-wall; the heart-sounds were "muffled"; the distress of breathing was excessive, threatening very speedy death; and on consultation, it was determined to tap the pericardial cavity, with the hope of relieving the more distressing symptoms. A fine trocar was introduced by Mr. Hulke, to the depth of about half an inch, in the fourth interspace, about half an inch to the left of the sternum. On removing the trocar, a gush of dark blood issued from the cannula, and the instrument was felt to be moved in accordance with the action of the heart. The cannula was almost immediately withdrawn, not more than about a drachm of blood having been removed. During the operation, no change was observed in the patient's pulse; after it, she expressed herself as feeling relieved; and that night was the best that she had passed since admission. During the next few days she seemed better; the præcordial dullness gradually diminished. She had signs of pleuropneumonia of the right lung at the time the operation was performed; and there was some fluid effusion in the right pleural cavity, and, later, in the left. After improving in general condition for a week or two, she gradually succumbed to general cedema, four weeks after the operation. It was decidedly the opinion of those present at the operation, that the trocar was inserted into the right ventricle. At the *post-mortem* examination, the heart was found to be extremely enlarged, with a universally adherent pericardium, the adhesions being evidently of considerable age. The interest of the case lay in the fact that (presumed) puncture of the right ventricle not only led to no ill results, but apparently gave temporary relief in a perfectly hopeless case; and it also illustrated the difficulty of diagnosing between pericardial effusion and an extremely and rapidly dilated right heart.

In reply to the President, Dr. Evans stated that no trace of a cicatrix could be found in the substance of the heart nor on the inner wall of the ventricle, although search was most carefully made. Mr. Hulke said there was no doubt that the fine trocar entered the heart, for it oscillated with the cardiac pulsation. Another time, he should prefer to connect the needle with some kind of exhausting chamber, and to push it in very slowly; one might then stop immediately fluid appeared. The position he had chosen he considered to be the best one at which to tap the pericardium: it was away from the heart's apex and the internal mammary artery. He was very much concerned when he saw the blood flow; but, in half an hour, the woman expressed her thanks for the relief afforded her. Dr. Southey had seen a similar case at St. Bartholomew's Hospital, in which the trocar entered the left ventricle; and in a little while the patient died with the pericardium filled with blood. In that case, the surgeon was quite sure his trocar had entered the heart from the movements

he felt. The President remarked that death was not due simply to the instrument perforating the heart, but to the subsequent pressure of the blood which escaped into the pericardium. Dr. Broadbent quite agreed with the President in that remark, and thought the relief in Dr. Evans's case was not due to the escape of a drachm or two drachms of blood, but that the benefit was produced by the operation stimulating the heart to increased action, so that it could more thoroughly expel its contents. It was, in one sense, a pity that more blood was not taken at the operation. Dr. Yeo referred to a case in which puncture was made to relieve pericardial effusion. The child lived for weeks, and, after death, a scar was found in the heart, but no ill-effects had resulted from the puncture. Mr. Hutchinson asked if any adhesions of the pericardium were found in that case. Dr. Yeo replied, "None." Dr. Farquharson gave particulars of a case which he had formerly brought before the Medical Society of London. The heart of a boy had been punctured by a knife to the depth of half an inch at the apex; the accident was followed by intense collapse and pericarditis. In looking up the literature of the subject, he had found in the *British Medical Journal* reference to some observations by Dr. Steiner of Vienna, who had announced, as the result of experiments upon animals, that either ventricle might be punctured with a needle without evil effect, but that puncture of either auricle with the needle was always followed by fatal hemorrhage. The President, in reference to Dr. Broadbent's remarks, considered that two drachms of blood taken from an overdistended right ventricle might surely relieve it, enable it to act more vigorously, and so have a good effect.

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*On the Mode in which the Circulation of Fecal Matters is Re-established after
Ligature of Intestine.*

La Revue Médicale for March 22, 1875, contains a paper of extreme interest, which in the absence of any name we suppose must be attributed to the editor, SALES GIROUS. He states that, whilst making experiments on the way in which temperature is affected by ligaturing the intestine, he was surprised to find that most of the dogs experimented on, after vomiting and obstruction of the bowels, and refusing their food, began gradually to recover after the fifth day; and about the tenth day they resumed their normal appearance, and all the functions of life seemed carried on as before. He thought at first that the ligature was not properly tied. This led him to make fresh experiments—with a similar result. He thinks the mechanism of recovery deserves special notice. When a segment (anse) of intestine is ligatured with silver wire, so as completely to obstruct its calibre, if the animal survive and be killed after ten days, it will be found that the portion of intestine is adherent to the abdominal wall, and to adjacent coils of intestine, by false membranes, which are easily torn, and often circumscribe little collections of pus. If, without disturbing the relations of the parts, sections are made above and below the portion ligatured, we can easily demonstrate, by injecting water, that the bowel is once more pervious. There is no perforation of the bowel, but a circular cicatrix shows where the ligature was applied—the two surfaces of intestine brought into contact by the ligature are, so to speak, welded or soldered together [sont soudées l'une à l'autre]. The calibre is normal, except that at the level of the cicatrix there is a slight circular constriction of the mucous membrane. The metal ligature is found attached to one side, and floating loop-like in the calibre of the bowel. It is easy to understand that, under the influence of the peristaltic action of the bowels, the intestine is cut through by the ligature; but during cicatrization of the external coats, the mucous membranes have succeeded in separating, and thus the patency of the calibre is re-established. Two things help to bring about this result. The first is the thickness of the walls of a dog's intestines; and the other, the nature of the mucous membrane preventing the adhesion of two mucous surfaces.

This is, then, a true recovery. The cicatrix is a genuine cicatrix, made up of the three tunics; and is demonstrated to be so by microscopic examination. Similar results were obtained with hemp-ligatures. It was once found that one of these was burst by the intestinal juices. An India-rubber ligature was found

encysted, its elasticity doubtless causing this result. If, instead of including a loop of intestine, the ligature was simply tied round the bowel [en travers de l'intestine sans prendre un anse], the results were similar, but more rapid, five days sufficing for the process. [These observations appear to the reporter of extreme interest, as illustrating the probable mode of recovery in some cases of intestinal obstruction in the human subject; and as explaining the circular [annular] cicatrices sometimes seen in the intestines in *post-mortem* examinations.]—*London Med. Record*, May 19, 1875.

Paroxysmal Hematuria.

So little is known of the curious disease variously styled paroxysmal hæmaturia, or hæmatinuria, that any addition to our knowledge of the malady is sure to be welcome. In the last number of the *St. Bartholomew's Hospital Reports* is a paper by Dr. LEGG, with some pretence to be a more or less complete account of the disease; and in the most recent number of the *Edinburgh Journal* we have a sound contribution of two cases of the disease by Dr. WARBURTON BEGBIE. On this basis we propose to make a few remarks on a disease at once strange and enigmatical, and to give our views on a subject not yet passed beyond the range of discussion.

Briefly paroxysmal hæmaturia might be described as follows: A man in the prime of life, with no other predisposing agency that we can make out than exposure to malaria after exposure to damp and cold, gets up in the morning as usual, but more or less speedily begins to feel languor and lassitude, severe chills all over, sometimes pain in the back, with or without sickness, all lasting for various periods. If urine of the ordinary character and appearance was passed on getting out of bed, that is now no longer the case, for as these disagreeable symptoms begin to disperse, or even long before, any water passed presents a colour varying from a slight red colour to something much more resembling porter or stout, coagulable by heat or acid, and depositing a dirty-looking mass. The deposit, if allowed to collect at the bottom of a vessel by standing merely, is found by the microscope to consist mainly of granular matter of a brownish-red tint, with casts of the uriniferous tubes, hyaline casts, and quantities of oxalates. The red matter is undoubtedly the colouring matter of blood; but in what state? In by far the greater number of cases no corpuscles are to be found; but in some few instances, when examined just when the urine was passed, these bodies have been found, though the same sample of urine, when examined later, contained nothing save their *débris*. In some cases the urea passed is increased, in most diminished, but in all we have this peculiar secretion of deeply coloured urine. This is the more remarkable inasmuch as that which is passed when the paroxysm has ceased is in all respects healthy, clear, transparent, and containing no albumen. This last appearance is constant if the patient is confined to bed, but the slightest exposure to cold will bring on the old attack. Even getting up out of bed may bring it back, and again the red or black urine appears with all its concomitant miseries. The presence of blood pigment in the urine is not a continuous, but an interrupted process; it comes on at certain periods, only, or under the influence of certain agencies, of which cold is the chief. Between times the urine is healthy.

Coming next to consider the phenomena of the disease more closely, we soon see that the essential feature of it consists in the presence of the blood-colouring matter in the urine. No corpuscles are to be seen. They have been broken down—but where and how? The materials of the corpuscles alone remain. The zooid and the ækoid of the corpuscles are broken up, but the hæmoglobin, of which especially the zooid is composed, is there. This is not difficult to prove; the spectrum analysis of hæmoglobin, whether in its reduced or oxidized state, is quite different from that of hæmatin, and the absence of its proper absorption bands shows that no hæmatin is there. For this reason, then, no hæmatin being present, the term “hæmatinuria” is inaccurate, and such a term as that used above, involving as it does no theory, is better used than one apparently more scientific.

This brings us to the consideration of the origin of such an extraordinary

separation of the colouring matter from the formed substance of the blood corpuscle. In what way can this be explained? More than one trial in this direction has been made, none of them very successful. Various symptoms point to the kidney as the source of the mischief; but this is only a half-truth. Undoubtedly the kidney must be more or less damaged or interfered with before such a quantity of blood-stuff, whether consisting of coloured matter or of simple albumen only, can pass away. The pain often complained of in the loins may thus be explained without having reference to any specific change in the organs. The idea of some, that it is in the kidney that the colouring matter of the blood is ordinarily changed into urine pigment, is quite untenable; no mere interference with the ordinary functions of the kidney will thus suffice for explanation. Moreover, this curious malady is often, if not invariably, accompanied by jaundice—an accident or coincident quite inexplicable on the renal hypothesis, but abundantly explicable if we seek the true theory of the disease in the breaking-down of the red corpuscles of the blood, whether in the vessels of the liver or elsewhere. That such a change may take place is quite certain, but the conditions of the change are unknown. However produced, the remains of broken-down corpuscles may be driven round the body, and so give rise to jaundice, with the passage of blood pigment, in a more or less altered condition, by the kidneys.

Certain forms of jaundice teach us that mental or, at all events, nervous influences may in some way effect such a change, and the same theory will extend into the origin of paroxysmal hæmaturia. This is not very far to go, but it puts, as we think, the theory on a correct basis, and indicates the direction in which research is likely to give the best results. Broadly speaking, it may be said that there is but one pigment in the body; all others are derivatives from it. Thus, red bile-pigment is really derived from hæmoglobin, green bile from red bile, and so on through a numerous series, ending ordinarily in urinary and faecal pigment. The exact chemical history of this pigment would, we are convinced, illustrate many pathological matters of which we are now ignorant.

Finally, as to treatment. Only quinine with or without iron seems to do any good. In his article Dr. W. Begbie speaks of chloride of ammonia as having done good in one of his cases; at all events it should be tried. The great thing, however, is prevention of any return, and, as far as we know, only one thing will do that—viz., visiting a warm climate; but return to a cold one only brings back the mischief, so that the unfortunate patient must look forward to an almost permanent expatriation.—*Medical Times and Gazette*, May 29, 1875.

Electricity in the Asphyxia of New-Born Infants.

Dr. ZAUNSCHIRM (*Medicisch-Chirurgisches Centralblatt*, April 16, 1875) reported a case, where, failing to resuscitate an infant after delivery by the forceps, by the usual methods, he bethought himself to apply electricity. Having obtained an induction instrument, he applied a feeble current, gradually increasing in strength, principally to the sympathetic nerve. With the first application of the pole inspiration was produced; one pole was then applied partly to the larynx and partly to the neighbourhood of the neck; the second pole to the thorax. Soon the heart's action became stronger and more rhythmical, and the breathing changed and more natural. By the end of ten minutes, the child was completely resuscitated. He strongly recommends the adoption of this method in cases of severe asphyxia.—*London Med. Record*, May 19, 1875.

A New Test for Waxy Degeneration.

At a late meeting of the Société de Biologie (*Gaz. Hebdomadaire*, May 14, 1875) M. CORNIL exhibited some beautiful preparations of different organs affected with amyloid degeneration, in which the non-infiltrated elements were coloured blue whilst the amyloid infiltration was coloured deep red, by the application of *violet de Paris* or violet of methylaniline, marked No. 350, N of Poirier. By the aid of this new test, M. Cornil has been enabled to study the alterations of the kidney, liver, and spleen, much more easily than by the other reactions.

Surgery.

The Least Sacrifice of Parts as a Principle of Surgical Practice.

Mr. BRYANT read a paper before the Medical Society of London Jan. 11 [since published entire in the Nos. of the *Lancet* for Feb. 13 and 20], in which he maintained the above principle. He explained it as one that forbade the surgeon to sacrifice more of the body than the absolute necessities of the case demanded; that called upon him to remove the disease, but no more; that enabled him in accidental surgery to make a flap for an amputation wherever he could, and in some cases to make no flap at all, but to leave the case to nature to repair; and, in pathological surgery, to cut through tissues infiltrated with inflammatory deposits rather than go above a joint or take away more of a limb than the necessities of the case demanded. He condensed the subject into three main propositions, each of which he illustrated by cases. The first proposition was: "That, in case of division or accident, no more of the body is to be taken away than the necessities of the case demand." He illustrated this chiefly from the surgery of the foot. At first sight, the proposition might appear to be a truism; but he asked if it were not true that, in cases of disease of the metatarsal bones or joints, surgeons were not too apt to regard the individual case as a good one for Chopart's operation, or Pirogoff's, or Syme's, and to forget that a good recovery of the foot might ensue on removal of the diseased bone or bones without any amputation at all. In support of this he quoted Mr. Lister (Holmes's *System of Surgery*, second edition, vol. v.), who expressed his opinion "that Syme's amputation is calculated to supersede entirely that of Chopart, besides taking the place of amputation of the leg in the majority of cases formerly supposed to demand it." He entirely dissented from these views; he believed that, for local disease alone, no form of amputation of the foot should be entertained until less severe measures had been employed and failed; that, when amputation of the foot was called for, the minimum amount of foot should be taken away; that, when a Chopart's operation would suffice, a Pirogoff's should not be thought of; that, when a Pirogoff's was applicable, a Syme's should not be entertained; and that an amputation of the whole foot was never to be undertaken when the disease could be removed by less severe measures. The remarks made were as applicable to other parts as to the foot. Fingers and thumbs were often removed in cases of injury that, if left to nature, might often be saved. Joints were excised that might be saved by free incisions, or by the removal of necrosed bone; and amputations were performed above a joint, or high up a limb, in order that good flaps might be made. He illustrated all these points by cases, quoting several cases of disease of the different tarsal bones, cured by the removal of the diseased bone; and three of extensive disease treated respectively by Chopart's and Syme's amputations, or by amputation of the leg. In disease of the bones of the foot, he had met with a case in which the resection of a tarsal bone was called for; for bone that was not dead was reparable, and to take this away was too often to take away that which, if left, would make good the parts that had died. The author then proceeded to illustrate the value of the proposition by the treatment of cases of diseased joint, and dwelt for some time upon the value of free incisions into suppurating joints. He referred to thirteen cases successfully treated by this method, and stated his belief that a free cut into a disorganized articulation was rarely followed by any other than a good result; that, when the suppurative process was due to synovial disease, a recovery without further surgical interference might be looked for; when it was due to local necrosis, the incision helped nature towards recovery by expediting exfoliation and the subsequent removal of the bone by either natural processes or some surgical proceeding. In more severe cases, the incisions gave relief, and in no way added to the mischief. The treatment of disease of the joints due to local necrosis was then considered, and a series of ten cases was read, including examples of disease of the shoulder, elbow, hip, knee, and ankle joints, in which recovery followed

the removal of dead bone from the articulations. The second proposition was: "That, to carry out this principle, the surgeon may, in pathological amputations, fearlessly divide tissues infiltrated with organized inflammatory products, and even cut through the walls of suppurating cavities or through diseased joints, more particularly to save amputating above a joint." Mr. Bryant illustrated this proposition by the particulars of ten cases, in all of which recovery took place. The third proposition was: "That, in accidental surgery, parts irreparably injured are alone to be removed, and no healthy tissues are to be sacrificed in order to perform a recognized, and probably a named operation; that, to these ends, the surgeon ought to utilize even doubtfully useful integument, or even leave a stump to granulate, when, by so doing, some portion of the shaft of a bone can be left, a joint saved, or amputation above a joint avoided." In the surgery of the hand, this practice was strongly advised, more particularly the injuries of the thumb. Amputation of a thumb, unless smashed irreparably, the author condemned; and, under all circumstances, the irreparably injured parts ought alone to be taken away, and doubtfully viable skin left. Cases were quoted to illustrate the proposition: ten of the toes; one of the foot; a Chopart's amputation, in which a long anterior flap was made; one of crushed arm, which was left to nature to granulate, and a good stump left; two of crushed legs, in which a rapid recovery followed amputation at the knee-joint; and one of ruptured popliteal artery, treated in the same way with success. The author concluded by stating that he could still further illustrate the value of the principle "of the least sacrifice of parts," pointing out how Sir W. Fergusson had always urged the removal of tumours of the jaw from within, and Sir J. Paget tumours of bone generally by enucleation.—*British Med. Journal*, Feb. 6, 1875.

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Acute Tetanus treated by Nitrite of Amyl.

Dr. WILLIAM S. FORBES read at the College of Physicians of Philadelphia (*Phila. Med. Times*, June 12, 1875) the history of a case of tetanus, beginning on the fourth day after an extensive burn, and advancing with great rapidity—having, in forty hours from its commencement, a temperature of 102°, a pulse of 133, and a respiration of 32 per minute—presenting marked opisthotonos, with trismus and a horrid tetanic grin; and having the muscles of deglutition considerably involved, together with paroxysms of brief and painful spasms, which yet were perfectly controlled by inhalations of nitrite of amyl, which was given in doses five drops twice a day for forty-six days.

This is the first case of acute tetanus in which amyl has been used alone, and successfully, and its action recorded. The amyl was first administered on the evening of the sixth day after the accident, and about forty hours after tetanus first discovered itself. Before the three drops had half evaporated, the heart's action became more quiet, and at each inhalation of the amyl afterwards it was generally observed to have a quieting effect on the heart's action. Towards the latter part of the treatment the pulse was among the eighties, although on giving the patient five drops on the 4th of April, six days after he had ceased to inhale five drops twice daily, the heart's action was 132 and tumultuous. The eyes were suffused, the skin of the face and neck became very much congested; indeed, the whole surface of the body was more or less congested; but this soon passed away when the amyl was withdrawn. The three drops had scarcely begun to cause congestion when there was evinced a tendency to gape, and a few days afterwards gaping and yawning both took place at each inhalation until the administration of the drug was discontinued.

This gaping and yawning was produced in each subsequent administration of the drug, which was given twice daily. A marked improvement was at once manifested in all his symptoms.

On the 14th, having another spasm, the dose was increased to five drops twice daily.

The amyl in the hospital giving out on the morning of the 11th, it was not replaced until the evening of the 20th. During this time he grew rapidly worse; the opisthotonos and the risus sardonicus both returned, and his pulse

and temperature rose rapidly. On recommencing the inhalation of nitrite of amyl he felt better almost immediately, and from that time progressed steadily to complete recovery.

On the 29th of March, forty-six days after the first dose of the amyl was given, the patient appeared to be perfectly well. He could walk about, and eat and drink, and enjoy himself in every way as before the attack, except having a feeling of weakness. The amyl was now discontinued; he had inhaled one ounce.

On a Case of Encephalitis and Interstitial Myelitis with Ulceration of both Corneæ.

In the *Berliner Klinische Wochenschrift* for March 8, 1875, will be found a short clinical account of a case of this kind, similar to that described by Von Gräfe in his *Archiv* (Band xii.). William G., aged six months, came under Dr. JACUSIEL's care on account of vomiting with diarrhœa; these symptoms were very severe, but appear to have yielded to active treatment. The child was enabled to take food; and the pulse and general temperature became natural. But he appeared singularly apathetic, and his eyes were wanting in expression, otherwise he might have been considered as nearly well. The conjunctivæ soon appeared dry (xerosis) from absence of secretion, and from this moment the suspicion of cerebral mischief was aroused; a few hours later both corneæ were found to be infiltrated, ulcerated at their lower margins; the conjunctivæ were injected, and their sensitiveness had diminished. A very short time elapsed before both corneæ were entirely destroyed; and on the fifth day from the commencement of the child's illness trismus set in, and at the same time the pulse became more frequent, and the cheeks appeared flushed. The eyelids, the conjunctivæ, and the mucous membranes of the nose and of the lips were now completely insensible; the child did not cry, and did not appear to suffer much, but remained in the same remarkable apathetic condition until its death, just five days after the first attack. On one occasion, it was reported, there had been some slight convulsive movements of the upper extremities. No *post-mortem* examination was permitted. During his illness the child was seen by Professor Schweigger, who confirmed the opinion expressed by Dr. Jacusiel. The cause of the attack could not in any way be explained. The parents were in good health, and had never had syphilis; their other children were healthy; and this child up to this attack had appeared strong and thriving, and had not been exposed in any way to exanthemata. In addition to that described by Von Gräfe mentioned above, other cases of the same nature have been recorded in Virchow's *Archiv* (Band xxxviii.) and in earlier numbers of this same journal (*Berliner Klinische Wochenschrift*, Nos. 31, 32); similar cases have been recorded by Hirschberg.—*London Med. Record*, May 12, 1875.

On Sympathetic Ophthalmia.

In the *Berliner Klinische Wochenschrift*, April 5, will be found a concise historical sketch, by Dr. GROSSMAN, of the phenomena which make up what is now termed sympathetic ophthalmia. According to this writer, the nature of the affection was first recognized by the Vienna School in the early part of this century, although it was Mackenzie who in 1844 first described a variety of sympathetic iritis. The writings of later surgeons, and especially those of Von Gräfe and Mooren, agree in the doctrine that the starting-point of the disturbance in the second eye is to be found in the presence of cyclitis in the eye originally injured or affected. In accordance with this, Dr. Grossman gives a very complete clinical sketch of the symptoms of cyclitis, and enumerates at length the many circumstances under which it may take its origin, such as injuries of all kinds, with or without any external wound; also certain intraocular causes, such as tumours, detachment of the retina, anterior synechia, extensive posterior synechia, and the varieties of anterior staphyloma, most of which are not generally recognized as possible causes. As regards treatment,

when once any structural alteration has taken place in the second eye, the removal of the offending eye must be immediately carried out. If performed sufficiently early, Grossman has found that iridectomy will be found of great use to the second eye, provided it be completely executed and to a considerable extent; otherwise it will prove of no service; and if its performance be delayed till the iris has contracted adhesions, or has become extensively altered in texture, the operation will be impracticable owing to the impossibility of removing any of the iris, and the probable result of such unsuccessful interference will be degeneration and atrophy of the entire globe. Should, however, the iridectomy be performed early enough, in the course of time, it may be of many months, the eye may regain some considerable amount of useful vision, although it is probable that extraction of the lens will have to be undertaken to bring about even this partial recovery. From many cases of the kind Dr. Grossman chooses, as an illustration of his remarks, the case of a man, aged twenty-three, who was struck in the left eye with a small splinter of iron; for this injury the man was under treatment for nine months, at the end of which time he resumed work, but was compelled to discontinue it at the end of a week in consequence of the ciliary irritation which made its appearance in the right eye. These symptoms rapidly ripened into those of iritis, and he now came for the first time under the author's care. The left eye, which was blind, shrunken, and painful, was removed, and at once the symptoms in the other eye were alleviated; at the end of a month a large iridectomy was successfully performed, and a steady and still further improvement took place; in the result, the natural and healthy appearance was restored, and the patient regained very useful vision = $\frac{2}{3}$. Examination of the enucleated eye revealed a splinter of iron embedded in the ciliary region. Dr. Grossman insists on the importance of publishing such cases in great detail, in order that those members of the profession who are not practising ophthalmic surgery may be sufficiently alive to the danger and to the insidious nature of this form of ophthalmia.—*London Med. Record*, May 19, 1875.

Extirpation of the Tongue.

Dr. VON LANGENBECK, at the late meeting of the German Surgical Association, held in Berlin (*British Med. Journ.*, May 22, 1875), spoke of the total extirpation of the tongue in carcinoma. He rejected the operation by the mouth (after ligature of the lingual artery), since in it the commencement of infection of the lymphatic glands was easily overlooked. Regnoli's method, a modification of which was frequently employed and praised by Billroth, had this disadvantage, that the larynx sank downwards after the division of the muscular structures by which it was held up, and that hence the secretion from the wound flowed inwards and gave rise to a putrid bronchitis. Langenbeck believed that he avoided these disadvantages by a plan which he had followed in three cases in which he had operated with success. On the side where there was most disease, an incision was carried from the angle of the mouth straight back to the thyroid cartilage; the lower jaw was then sawn through between the first and second molars, and the shorter portion of the jaw turned outwards and upwards; the removal of the diseased part was then effected without difficulty, even when it was necessary to take away also a portion of the arch of the palate. The reunion of the jaw after its division was always attended with some difficulty; it was most surely effected by using ivory pegs pointed at both ends, the points of which were inserted in corresponding holes bored in the sawn surfaces of the bone.

Removal of a Growth from the Larynx with the Aid of Local Anæsthesia.

Dr. MASSEI reports a case, in *La Clinica* of March 31, in which he removed a papillomatous growth from the larynx of a lady, aged thirty-two, who had suffered from aphonia for five months. The growth was multiple, the greater

part springing from the free border of the right vocal cord, and occupying the anterior commissure of the vocal cords; whilst two or three vegetations, about the size of hemp-seeds were disseminated over the anterior third of the left vocal cord. The throat being so irritable that Dr. Massei was unable to operate in the ordinary way, he determined to make use of local anæsthesia, and accordingly commenced at 9.30 on February 21, by pencilling the interior of the larynx with pure chloroform. This caused slight giddiness, which was relieved by an ammoniacal draught. At 11 the larynx was pencilled with a saturated solution of morphia, which was well tolerated; chloroform was again applied at 12.30, and morphia at 2. Notwithstanding this persevering treatment, at 2.30 anæsthesia was not established; further repetitions of the anæsthetics were made at short intervals, but still at 3.30 the desired result was not completely obtained. The patient, however, was tired of the anæsthetic treatment, and Dr. Massei proceeded to operate. It was found that, though complete anæsthesia had not been produced, the sensibility of the larynx had been greatly diminished, and Dr. Massei succeeded in removing the growths with forceps comparatively easily. The following day the voice was found to be perfect and there remained only slight hyperæmia of the left vocal cord. [This case is interesting, as illustrating both the advantages and the difficulties of producing anæsthesia of the larynx. This auxiliary is frequently employed by Schrötter, of Vienna, and Labus, of Milan, but is seldom used by other laryngoscopists.]—*London Med. Record*, May 12, 1875.

Intestinal Obstruction; Laparotomy.

Dr. ERSKINE MASON presented to the New York Pathological Society (*New York Med. Journ.*, June, 1875) the intestines of a case, with the following history: The patient was an Englishwoman, forty-two years of age, and entered hospital April 26th. Nineteen years ago she had her first child, and, following it, an attack of puerperal peritonitis, but since that time has been in perfect health. On April 21st she was seized with intense pain in the abdomen, but next day she passed some feces. When she entered hospital she complained of soreness of the abdomen, with tympanites and vomiting. Respirations were twenty-four in the minute. No tumour could be discovered, but there was marked tenderness over the hepatic flexure of the colon. The urine was normal. In order to relieve the distension, the intestines were aspirated, and the hand was then introduced into the rectum for the distance of seven inches, to endeavour to find the obstruction, but without success. On entering the anus the sphincter was found to be closely contracted, and an unusual obstruction was also encountered in the shape of the tip of the coccyx. It was then decided to perform laparotomy, and endeavour, if possible, to remove the obstruction. An incision, beginning at the symphysis pubis, was carried through the linea alba, to the extent of three or four inches, and the cavity of the abdomen explored. The transverse colon was found bound down by adhesions, and bands were also detected at the sigmoid flexure. These were separated, but during the operation the patient became pulseless and respiration ceased. She rallied, however, under the influence of stimulants, but again began to sink after the operation, and died in twelve hours.

Autopsy.—The intestines were found distended with gas. The ileum was found attached to the Fallopian tubes, and bound down by adhesions. This obstruction in the small intestines was overlooked, from the fact, in the opinion of Dr. Mason, that they were not distended with gas.

Removal of the Os Coccygis for Coccydynia.

Dr. J. C. IRISH, of Lowell, reports (*Boston Med. and Surg. Journ.*, May 27, 1875) the following case, which was under the care of Dr. Walter Burnham, of Lowell.

Miss C., forty-four years old, an unmarried seamstress, at the age of fifteen received a fall, whose force came upon the coccyx. The injury was immedi-

ately attended in the vicinity of the bone with great pain and soreness, which, however, after a few weeks measurably though not entirely subsided. Four years afterwards, while engaged in her avocation, she began to suffer from neuralgia affecting all the pelvic organs, but more especially the anus and rectum. The sitting posture greatly aggravated the pain, as did any movements calling into exercise the muscles attached to the coccyx. Defecation was attended with extreme suffering. Menstruation was regular and normal, except that it was attended with severe neuralgia, referred mainly to the rectum. The patient suffered constantly from pain and tenderness, involving all the pelvic viscera. The several physicians, under whose care the patient had placed herself, could afford her merely slight and temporary relief, although all the ordinary remedies for neuralgia received a thorough trial.

At the time of the examination by Dr. Burnham, January 23, 1875, he found extreme tenderness over the coccyx, the two lower segments of the bone displaced, and directed anteriorly at a right angle to the remaining portion, and pressing upon the rectum. He also found retroversion of the uterus. The patient was suffering constantly from severe neuralgic pain, which was greatly increased by sitting or walking. Being informed that nothing but surgical interference would probably afford her any permanent relief, she readily consented to any operation that might be deemed necessary.

January 26th.—The patient having been placed on her right side and etherized, Dr. Burnham made an incision two inches in length along the median line, and carefully dissected off the attachments of muscles and ligaments, carrying the knife in close proximity to the bone. This dissection was rendered somewhat tedious from the anterior displacement of the terminal segments; next, the lower portion of the bone was removed with the bone forceps; lastly, all the remaining muscular attachments as far as the cornua of the coccyx were detached with the scissors. The hemorrhage was very slight, no vessel of sufficient size to require ligation being severed. The wound was dressed with a compress wet in carbolic acid. During the forty-eight hours following the operation, the patient suffered severe pain, which after that time gradually and entirely subsided. For two weeks the discharge from the wound was very copious, but six weeks after the operation it had entirely ceased. The bowels were kept quiet during the first six days, by opiates, and after that time the patient had perfect control of the sphincter ani.

The result has been an entire cure of the coccydynia, with a most marked improvement in the general health of the patient. No cause for the retroversion was apparent, unless it was due to her general weakness and consequent laxity of the uterine ligaments; possibly, also, the displacement of the coccyx, by relaxing the levatores ani and sphincter vaginæ, thus weakening the posterior uterine supports, may have contributed considerably to the production of this displacement of the uterus.

This operation, first suggested and performed by Dr. J. C. Nott, has been but rarely resorted to, though coccydynia is by no means an infrequent affection. In all those cases, so far as I know, in which the two last segments of the bone have been removed, the cure has been complete and permanent. Removal of the whole or the larger portion of the bone seems to me preferable to subcutaneous division of the attachments, because the former procedure precludes all chance of a return of the disease and but slightly increases the gravity of the operation, while in cases of displacement it is much more easily performed than the latter.

Statistics of Amputations performed in the Glasgow Royal Infirmary during the Twenty-five Years ending 31st December, 1873.

Dr. MOSES THOMAS gives (*Glasgow Med. Journ.*, April, 1875) the results of the more important amputations performed at this institution during twenty-five years. The statistics of amputations at the infirmary from its opening in 1794 to 1839 were published by Dr. Lawrie in the *London Med. Gaz.* for 1840, and from 1839 to 1848 by Dr. Steele in the *Edinburgh Med. Journ.* for 1849, and Dr. Thomas now completes the record to date.

During the last twenty-five years there have been 1412 amputations, of which 67.9 per cent. recovered and 32.1 per cent. died. This is a decrease in the mortality as compared with the earlier statistics, and tends to disprove the opinion of Sir James Simpson that the "mortality after amputation in hospitals increases with the age of the hospital."

Of the 657 primary amputations 36.5 per cent. died; of the 172 secondary 51.7 per cent. died; of the 583 amputations for disease 21.9 per cent. died.

During the ninety years since its opening there were 1973 amputations, with a mortality of 34.1 per cent.

— *Monstrosity by Inclusion. Successful Excision.* —

Dr. W. W. MINER reports (*Buffalo Med. and Surg. Journal*, April, 1875) the following case: Myrtle M., four years of age, living in Genesee county, has since her birth had, in the region of her sacrum and nates, a large pendulous tumour, which entirely obliterates the cleft naturally separating the nates, and appears as a single protuberance of large size, depending from a firm attachment to the spinal column. It is about ten inches in diameter laterally, flattened from before backwards, and measuring in an antero-posterior direction about eight inches, while it depends several inches below the level of the perineum. Notwithstanding its great size, the child is able to sit, and can run about, though there is a bending forwards of the body in standing or walking, compensatory for the extra weight carried behind. At birth, the tumour was about the size of a pint measure; it was then punctured, at the earnest solicitation of friends, and about one teacupful of clear serum flowed; collapse of the cyst following. The point of puncture has never entirely closed, and the secretion, which still escapes from it, is getting to be objectionable by its presence and bad odor. The tumour has increased in size relatively with the growth of the child, though, with the advance in years, the inconvenience of the growth is attaining greater importance. The parents are anxious to have the deformity removed if possible, and are willing to risk considerable in order to rid their child of this obnoxious and harassing appendage.

The case is a rare one, and in recently examining it, it presented quite a doubtful character. Dr. Miner's first impression was that it was a hydro-rachitic cyst, having had at one time, if not at present, connection with the spinal canal through the aperture of a bifid spine. The fact that the child is now in perfect health, was not disturbed by evacuation of the fluid contents of the cyst at birth, and is not now affected by manipulation and careless treatment of the protuberance, seemed to cast doubt on the supposition of its having connection with the spinal cord. It is regular in outline, distinctly circumscribed, except in the region of the sacrum and coccyx, where its attachment seems close and firm. It is of firm consistence, certain portions of it, however, feel harder than others, as if it were multilocular or indistinctly lobulated. Drs. Rochester, Boardman, and others who are interested in examining it, while regarding it of doubtful character, do not feel that the indications are such as to forbid using the knife and finding out what the practicable treatment of the case may be.

Chloroform having been administered, a cautious dissection and partial enucleation of the growth from the overlying integument is made; the line of the two incisions being curved outwards on either side of the median line enclosing an oval piece of integument. Separation without appreciable hemorrhage was thus effected of the tumour from its surroundings laterally, but firm attachment existed adjacent to the sacrum, also to the rectum, in all four or five inches in length, and an inch and a half in breadth. The coccyx could not be felt or found. The walls of the rectum were not separated by any appreciable interval, from the parietal wall of the growth. Very careful dissection, with the finger in the rectum as a guide, effected, at length, separation here. The principal and supporting part of the pedicle was of doubtful character, appearing very firm, fibrous or fibro-areolar in structure. Incision of this was finally made, when it appeared that there was no canal existing between the growth and the spinal cord. The vascular connections were not of great size, two ligatures only being used.

It was then found that there was an entire absence of the coccyx in the child. The sacrum also was greatly deficient, though it was such as served to complete the pelvic arch and furnish a basis of support and connection with the spine. The operation occupied considerable time, and made quite a demand upon the little patient's powers temporarily.

The weight of the tumour removed was four and one-half pounds. It was of spheroidal form, cystic in external appearance. Examination of the growth, with the aid of a knife, was made. It was found that the growth had been enclosed in the integument of the back and nates much as the ovum is enclosed in the uterus. Its external covering was more or less closely attached to the integument of the child, still had been separated from it by enucleation and dissection. Beneath this outer covering of the tumour, there was a space corresponding to an amniotic cavity, and in which there was a cheesy substance resembling the vernix caseosa. On the surface of the enclosed part, were two protuberances, one-fourth of an inch in diameter, and suggesting, by their appearance and relative position, the idea of two nipples. Further incision into the body of the growth, revealed its generally adipose and fibro-cellular character; one portion of about three ounces weight was of a dark colour, gelatinous consistence, and had some resemblance to liver structure or to a softened coagulum of blood. An ounce or two of clay-coloured and firm substance was considered to be meconium. In the harder, nodular portions of the growth, were found the last phalanx of a finger, perfect in its exterior of nail and integument, and with rudimentary phalanx of bone; also the articulated metacarpal and phalangeal bones of another finger, without proper integument. Further dissection revealed one of the pelvic bones, the left innominatum, and articulated with it, the upper third of the corresponding femur. Likewise, also, there were the articulated bones of a right leg and foot, with half the corresponding femur; the two former were greatly distorted, turned outwards as in club-foot. The bones of the fifth toe were absent, the others, however, were complete and furnished with nails and phalangeal integument. The innominate bone was of the size of that in the fœtus at the fourth month, while the tibia and fibula, and bones of the foot, which were most fully developed, were those of near the full term of fœtal growth. The length of the tibia is four and one-half inches.

The child rallied without delay, and completely, so that it appeared on the day following the operation to have been very little disturbed generally by it. On the fourth day of her stay in the hospital, an eruption appeared on the child which presented the appearance markedly of scarlet fever. She had a mild condition of fever the fifth day, which perceptibly declined the next day. Besides desquamation no other symptoms of scarlatina were manifested, so that its mildness caused doubt in some as to its scarlatinal character. The silk sutures were removed one week after the operation, union by first intention having occurred in the greater part of the wound. On the tenth day the child was taken home, being as near well as the time would allow, was able to stand on her feet, walk a little, and was feeling in great joy at sight of its father and the prospect of going home.

The growth was excised on the seventeenth of February. Dr. Miner learns from the parents that at the middle of March the child was running about, its recovery being well established.

Dumreicher's Method of Treating Ununited Fracture.

DR. CARL NICOLADONI, of Vienna, reports, in the *Wiener Medizinische Wochenschrift*, No. 5, 1875, two cases of threatening failure of union in fracture of the tibia, in which Dumreicher's method was carried out with complete success. On the supposition that delayed and faulty union are due to deficient vascularization and a faulty supply of nutritive material at the seat of fracture, this method is practised for the purpose of artificially producing a persistent hyperæmia of the parts at the seat of injury, so as to set up here a constant irritation of all the tissues, and at the same time to afford to these irritated tissues a constant and excessive supply of nutritive material. The injured leg, in which there is a tendency manifested to the formation of a false joint, is

enveloped from the toes to a part a little below the fracture by a strong flannel bandage. Four wedge-shaped pads are applied, two above and two below the fracture, in such a manner that the broad ends of the upper and lower pairs are opposed to each other, and that between them a free surface of the skin is left which corresponds to the seat of fracture. These pads are kept in position by strips of adhesive plaster, and covered by a thin wooden splint, over which a bandage is firmly applied. The whole limb is then kept at rest on an ordinary splint. By the application of the bandage below the fracture, the peripheral portion of the limb is protected against the injurious results of pressure made by the pads above the ankle. The pressure of the lower pads and of the flannel bandage induces an active arterial hyperemia of the parts about the false joint, which hyperemia is more or less restricted to these parts, as the two pads are so applied as to retard the backward flow of venous blood, though not interfering very much with the arterial supply. After an application of this apparatus for twenty-four hours, the skin becomes red and hot, and the fractured portion of bone can no longer be felt, on account of the swelling of all the superjacent soft parts. This swelling is firm and differs altogether, according to Dr. Nicoladoni, from ordinary oedema. On the second and third days, the parts between the wedge-shaped pads become more swollen and firmer; but this swelling will speedily disappear on the removal of the pads, and will not persist and do any good until after the apparatus has been retained for five or six days. In favourable cases, after an application kept up, with occasional short intervals, for three or four weeks, the fragments become much less movable, and cannot be examined and moved without much pain. The limb can now be placed in a firm apparatus of plaster of Paris or water-glass, and in a few weeks the fracture will become firmly consolidated. In the first case reported by Dr. Nicoladoni, the pads were applied during eight weeks, with occasional intervals of rest, lasting for two days. A gypsum bandage was then applied, and at the end of the tenth week the fragments of tibia were found to be firmly consolidated. In the second case the pads and bandages were applied during a period of two months; six weeks after their removal and the application of a firm bandage, there was perfect union.

Dr. Nicoladoni reports also in this contribution a case of double abscess of the tibia treated by operation, in which a sluggish condition of the granulations and retarded healing in one of the exposed cavities in the bone were overcome by applying the above-mentioned apparatus of pads and bandages. This case is cited in order to prove that Dumreicher's method, where successfully applied in cases of delayed union of fracture, acts not merely by causing irritation of the periosteum and by setting up a highly productive periostitis, but also by stimulating to osseous outgrowth the whole thickness of the bone just above and below the seat of fracture.—*London Med. Record*, March 24, 1875.

Treatment of Ununited Fracture by Transplantation of Bone.

In the *Aerztlichee Intelligenz-Blatt*, Feb. 23, 1875, Professor NUSSBAUM, of Munich, publishes a very interesting and practical clinical lecture on the treatment of ununited fracture, its pathology and methods of treatment, and particularly on the treatment by the transplantation of bone, in complicated gunshot fractures, resulting in an open false joint, with great loss of bone-substance and necrosis, where the cartilage-encrusted extremities are merely bound together by a long thin tendinous band. As regards the limbs, he confesses that he has had only hitherto one instance in which he has employed the method, but with such a singular amount of success as to afford great encouragement to further attempts in the same direction.

A Saxon lieutenant, twenty-four years old, on July 12, 1870, in the fight at Mars-la-Tour, received a very severe gunshot wound in the right forearm. The ulna was smashed in the middle, the splinters of bone had necrosed, the periosteum had been destroyed, and subsequent cicatrization had resulted in a false joint, having about two inches and a half of open wound. The two approximating ends of the fractured bone were united by means of a thin fibrous cord. Although the radius was intact, the functions of the bone were

so limited, and its abnormal motion so exaggerated, that the patient was invalided. On July 14, 1874, the patient being chloroformed, the false joint was exposed. Both ends of the fractured bone were thin, covered with a pointed cartilaginous process, and slightly united by means of a weak, tendinous false ligament. The pointed cartilaginous extremities and the thin false ligament, being rather in the way than useful were cut off with strong scissors. Next, the upper surface of the proximal end of the ulna was half sawn through, about two inches and a half from its extremity, and with a sharp cutting chisel this upper piece of the ulna, with its periosteum, was split off, parallel with its upper surface, yet so that the periosteum of the pointed extremity and of the under surface were not both cut through; thus the detached portion of bone had still a slight nutrient bridge derived from the periosteal covering. Finally, the portion of bone thus detached was so deposited in the gap, that its internal upper surface now became external, the under internal, and the outer surface became the upper one. Had the transplanted portion been turned downwards so that the now upper surface had become the under, the periosteal bridge remaining on the under surface must have been much more dragged upon and torn, and it would have been probable that the blood-communication, through the connecting periosteal slip, might have been entirely cut off.

[Without the accompanying engraving the description given reads somewhat obscurely, but it would seem that the transplanted portion of the bone obtained its new position by a sort of *movement en bascule*.—*Rep.*]

In the gap in which the transplanted portion of bone had been placed, a tolerably deep incision had been previously made into the indurated soft parts, to promote some inflammatory action in the neighbourhood, and to favour the adhesion of the introduced portion of bone. The wound was dressed with carbolized dressing and closed with seven sutures, and subsequently enclosed in a gypsum bandage finished with a trap-door.

The operation was so successful that in December, 1874, the patient was gazetted to a grenadier regiment.

Professor Nussbaum makes the following remarks on the two great mishaps after fracture, viz., healing bent, or with considerable shortening. Supposing a case is met with in six months, the badly united fracture should be simply broken up again under chloroform, as, before the definitive callus is formed, a refracture is neither difficult nor dangerous.

A linen cloth should be laid on the edge of a table, and the fracture to be broken brought quite to the margin. A strong pressure downwards readily breaks the provisional callus, and it is best broken in the direction corresponding with the faulty curve, and should be commenced by extension (for which purpose an extension bandage is most serviceable). Considerable risk is run in refracture, during this stretching, of rupturing some arteries adherent to the callus, since the process is never effected slowly but always with a powerful jerk. But if the callus be broken up by bending inwards, the necessary amount of stretching can be conducted slowly and surely. A good position having been obtained, the new fracture can be treated as a simple one.

If six or seven months have passed and the definitive callus have become of ivory hardness and stronger than the sound bone, should any attempt be made at refracture, it would remain intact, and the resulting fracture of the normal bone would render the condition worse than before. Under these circumstances only operation is of use.

Langenbeck employs two processes in the subsequent operative procedure on the bones. After having made a small incision in the skin, he first bores through the callus at the angle; he then enters a small fine key-hole saw into the hole thus bored, and cuts through the bent bones right and left, to such an extent that merely a thin bridge of the cortex of these bones remain intact. The wound is then carefully cleansed. After granulation has taken place and the integument has healed over, he undertakes, as the second portion of the operation, the fracture of the remaining thin cortex, and treats it, by means of a gypsum bandage, as a simple fracture of the bone. The idea is admirable. The object of this partial sawing is, that the mass of definitive callus, which has become as hard as ivory and could itself not be broken up, is readily ruptured when

it has been three parts sawn through, and the fracture can be effected at the "place of election." It is a matter of fact that the wounds effected by the boring and sawing portions of the operation produce such inflammatory reaction that the remaining lamellæ thereby become soft and elastic, and so the rest of the operation is rather a bending than a fracture. The most important advantage, however, of Langenbeck's operation, consists in this, that when there is a wound there is a fracture; and at the time when one has to be made and treated, there is no open wound.

The American surgeons reduce the bones to be broken later on, simply by drilling five or six holes through them. Szymanowsky saws a wedge-shaped piece out, three parts the thickness of which he removes, and after the healing of the soft parts, breaks through the remaining portion. Professor Nussbaum's plan is to avoid the sawdust and *débris* arising from the drilling and sawing operations, by using a fine sharp cabinet-makers' chisel. He chisels through about three-quarters of the thickness of the bone, and then withdraws the chisel, allows the wound to heal, and afterwards breaks through the remaining portion.

[The entire paper is one of great clinical interest, not only as regards Professor Nussbaum's own experience, but of that of others; the reader is therefore referred to the original for greater detail.—EDWARD BELLAMY.]—*Lond. Med. Record*, March 31, 1875.

The Treatment of False Joint.

Dr. VOLKMANN (*Berliner Klinische Wochenschrift*, April 26, 1875) describes a case in which the false joint was in the lower part of the left thigh, and resulted from non-union after complicated fracture.

About six months after the accident, the ununited fragments were exposed by an incision through the skin about five inches in length. The bones were found to be cylindrical and firm, the upper surface covered with rough osteophytic laminae, their ends as they overlapped being bound together by a loose membrane; moreover, from the apex of the upper and posterior fragment proceeded a strong fibrous cord about half an inch long, binding it to the underlying and anterior fragment. The extremities of both fragments were next removed by means of a "keyhole" saw, so that the two portions of the thigh-bone overlapped each other for about two inches. Then the hinder half of the anterior (under) fragment and the front half of the posterior (upper) fragment, in their long axes, were cut through for the same extent (two inches) with a chisel, so that these two extremities became step-shaped, and were easily and neatly adapted to each other.

The fragments so placed were bored through, and riveted together by means of two ivory pegs.

The external wound was brought together by sutures enclosed in a strong plaster of Paris bandage, with a trap-door, and the wound dressed by Lister's method. The pegs were removed seven weeks afterwards; they had become thinned and eroded. Eleven weeks after the operation the consolidation was such that a mechanical appliance could be fixed to the knee-joint. Beyond a shortening of about four-fifths of an inch, no deformity is to be observed.—*London Med. Record*, May 19, 1875.

Fracture of the Clavicle.

In the March number of the *Archives Générales de Médecine*, M. DELENS draws attention to certain cases of fracture of the clavicle in its middle third, caused by muscular contraction.

There is nothing original in the paper, which simply gives the histories of several cases which have been published from time to time, and summarizes from these.

Nineteen facts are reported, and one instance is mentioned of fracture at the outer extremity of the bone, to show at the same time the possibility and the rarity of the occurrence. The right was in eleven, the left in five instances, the side injured. Owing to the periosteum remaining unlacerated, the dis-

placement was inconsiderable, the bone bending forward at the site of its fracture. Of seventeen cases in which the sex is mentioned, eleven were men and six were women. In ten of the instances the patients were between twenty-five and sixty years of age. In most of the cases debility, scrofula, or syphilis seemed [as the author terms it] to have predisposed to the fracture. The muscular effort occasioning the lesion was often slight, as in closing a door or in playing at battledore-and-shuttlecock; or the fracture occurred during the convulsions of epilepsy. The precise mechanism of the lesion is unknown. The injury [as might be expected] is easily diagnosed; and owing to the slight displacement from the non-laceration of the periosteum, rapid repair and little deformity result.—*London Med. Record*, May 19, 1875.

Sequel to a Paper on Excision of the Ankle-Joint.

In a former communication of Mr. LEE's on Resection of the Ankle-joint, made to the Royal Medical and Chirurgical Society, the plan of dislocating the lower extremity of the tibia and the upper surface of the astragalus outwards was advocated as the best mode of performing the operation, but it was demonstrated that before this could be done the internal malleolus must be removed. A division of the internal lateral ligament is not sufficient, the projection of the internal malleolus when present prevents the foot being turned sufficiently inwards as long as the upper surface of the astragalus is held in apposition with the lower extremity of the tibia by the tendons which pass behind the ankle-joint. The difficulty of dislocating the bones in order to perform the operation satisfactorily was considered in all the plans which had previously been suggested. A case was given, which was believed to be the only one on record, where a complete primary resection of the ankle-joint was performed, and in which a most satisfactory result was obtained. In this case, the bones had been dislocated outward, and the extremities of the tibia and fibula were removed without any attempt at reduction being made. On the 27th of January last, another case fell under Mr. Lee's care, in which a similar compound dislocation of the ankle had occurred, but in this case the lower extremity of the tibia was dislocated inwards, and projected for two or three inches through the skin. The extremity of the internal malleolus had been detached, and remained connected with the internal lateral ligament. The fibula was broken about three inches from its termination. In this case, the lower extremity of the tibia was sawn off, and the bone replaced in its normal position; an incision was then made over the external malleolus, and the periosteum separated from the bone as much as practicable. The external lateral ligaments were then divided, and the lower broken-portion of the fibula removed. The limb was then again placed on its outer side, and the upper surface of the astragalus made to protrude as much as possible through the internal wound. A deep horizontal groove was made by means of a small saw below its upper articular surface. This surface was then removed completely by means of the cutting pliers, the two smooth surfaces of bone were then placed in apposition, and carbolic dressing applied to the wound. A very severe attack of erysipelas occurred on the fourth day, which extended up the leg and thigh, the skin being of a very deep livid colour. It was feared that gangrene of the limb might take place, as had occurred in another patient who had the same symptoms, and who was admitted about the same time with a compound fracture of the *l'èg*. A deep incision was made on each side of the leg, from which there was soon a copious discharge of pus. The skin now assumed a bright red colour, and the erysipelas, having run its course, gradually subsided. The portion of the astragalus which had been removed had, and still has, attached to it a portion of the anterior tibial artery which had been torn through at the time of the accident. The case previously recorded offered some interesting points of contrast with the present one. In the first, the bones were dislocated outward; in the second, inward. In the first, the internal malleolus was not removed, although detached from the tibia, and the fibula in that case was not broken. The internal malleolus, which was allowed to remain, proved to be the cause of some subsequent irritation and suppuration, and the conclusion was arrived at that both malleoli ought in this

operation to be removed, whether detached or not. The principal point, however, to which the author wished to direct attention was the much greater facility which there is in removing the upper surface of the astragalus where that bone is dislocated outward than where an attempt is made to displace it inward. This, in the author's opinion, made a very great difference where a surgeon can choose which operation he will perform. Even after both malleoli are removed, the powerful tendons which run behind the joint on its inner side tend to prevent the astragalus from being inverted, and are of themselves sufficient to account for the difficulty that surgeons have experienced in attempting to turn the astragalus sufficiently inward to remove its upper articulating surface. This he did without difficulty in the first case by a clean section through the entire upper part of the bone, but he could not do so in the second without distressing the surrounding parts more than might be desirable. After the saw had been used to a certain extent, the upper surface of the astragalus had to be removed in three different portions by the cutting forceps.

Mr. Mac Cormac showed a boy, aged 10, who, in consequence of injury by a cab, had received a contused wound of the ankle, followed by secondary inflammation of the joint. The malleoli and the upper surface of the astragalus had been excised. The operation which he performed had been introduced by Langenbeck. A long incision was made along the fibula, the end of which was sawn off, the periosteum being preserved; then, before any further incision was made, the upper part of the astragalus was sawn through; an incision was then made over the tibia, and the lower end of this bone and the portion of astragalus that had been cut off were removed. There appeared to be very complete reproduction of bone in this case.—Mr. Henry Lee said that he preferred to make the incision on the inner side. Where there was much inflammation and thickening, it might be advisable to remove the head of the astragalus *in situ*; otherwise, dislocation outwards was the best plan. If the fibula were broken, it was best to remove the whole of the broken bone, and not to leave a small fragment.—*Brit. Med. Journ.*, May 22, 1875.

Excessive and Long-maintained High Temperature after Injury to the Spine; Recovery.

Mr. J. W. TEALE read, at a late meeting of the Clinical Society of London, the notes of a unique case in which a temperature ranging from 105° to 122° and upwards had been maintained for a period of nearly nine weeks. The patient, Miss G., was thrown from her horse on September 5, 1874, as the animal was trying to take a five-barred gate at a standing jump. The horse fell upon the lady, and rolled two or three times backwards and forwards over her chest as she lay on the ground, which was covered with large rough stones. Temporary unconsciousness followed the accident, after which the patient was at once taken to Scarborough, and placed under the care of Mr. Teale. Her fifth and sixth left ribs were found to have sustained a simple fracture in the middle of their length; she was conscious, but collapsed, complained of great pain in the back, and was severely bruised at various parts of the body. For several days after the accident there was some feverishness; the temperature reached 101°, but became normal in a fortnight. The ribs united readily; and the patient was apparently convalescing, though she had pain and tenderness over the spine, especially about the sixth dorsal vertebra. On October 3d, Mr. Pridgin Teale, of Leeds, saw the case in consultation; and it was considered that the pain and the slight feverishness which was again present were due to subacute inflammation of the spinal ligaments. Perfect rest on a water-bed was advised. During October the temperature remained at 100° or 101°; there was pain with tenderness over the spine; sleep was disturbed; occasional twitchings of the legs occurred; and there was a feeling as of a cord tied tightly round the waist. The arms were unaffected. Leeches and ice-bags to the spine were employed; but the temperature slowly rose, until, on November 3, it was 103.5°; on November 6, 106°; and on the 7th, 107°. The respirations were unaffected; the pulse did not exceed 100°. On November 7, Mr. Pridgin Teale again visited the patient, and it was then thought that

she had inflammation of the spinal ligaments and intervertebral substances, and possibly of the membranes of the cord, but that the cord itself was not primarily affected, except by pressure of neighbouring inflamed parts, as there was no paralysis of sensation or motion about the legs or sphincters. It was determined to bring the system gently under the influence of mercury, by means of ointment applied to the thighs. On November 8 the temperature was 110° ; on the 11th, 12th, and 13th it was 111° , 113° , and 114° ; whilst on the 14th the index of the thermometer was buried in the bulb at the top of the instrument at a point above 122° . The pulse rose to 120° , and became small, thready, and at times scarcely perceptible. Rapid emaciation occurred; there was intense pain along the spine, which was relieved by frequent hypodermic injections of morphia, and death from exhaustion seemed imminent. At times the power of swallowing was lost, once for forty-eight hours; nutrient enemata were given, and ice-bags applied to the spine. On November 16 the mercurial ointment was removed, the gums being slightly tender; and there was from that date an improvement in the general symptoms, though the temperature remained still as high as ever. The power of swallowing returned; the pulse fell to 110, and improved in quality; the spinal pain diminished; the twitches in the legs were less frequent, and the patient could raise the legs more freely. The extraordinary high readings of the thermometer ceased now to cause alarm, the patient having lived so many weeks with a temperature hitherto supposed to be incompatible with life. On December 12 the tongue became suddenly swollen, causing great distress, which subsided in about twenty-four hours. Thenceforward more decided improvement set in. The appetite increased; flesh and power were regained more rapidly, though the temperature still ranged from 110° to 114° . On January 7, 1875, the temperature fell to 104° ; on the 8th, to 102° ; and on the 10th it was normal. On the 12th the patient could take a few steps about the room, a slight drag of the left leg being perceptible. On the 22d she walked one hundred yards in the open air. Mr. Teale thought that the result proved that the cord itself had not been seriously implicated, and that an excessive and long-maintained high temperature was not necessarily destructive of life. In some further remarks he said that seven thermometers had at different times been used to register these high temperatures, four of which had been since verified at Kew. He exhibited the instruments and the accompanying certificates. Only one thermometer could be found which registered a temperature above 118° ; that one was marked up to 122° , and with that instrument the highest readings were taken. On December 1, for the fifth time, the index was buried in the bulb; as it was then found it still remained, and had been brought to the meeting for inspection. It was marked to 122° ; the index was in length equal to 3° , so that the temperature on December 1 would appear to have been at least 125° . The temperature was often taken in both axillæ at the same time; the instruments being reversed at each visit. The temperature between the thighs was generally found nearly to correspond with that registered in the armpits. Once, on December 10, the temperature in the rectum was taken, and was found to be 111° , that in the axillæ at the same time being 110.4° . The patient could never bear the thermometer to be placed beneath the tongue. The thermometers were inspected by two or three trustworthy witnesses before and after each application, and the results were always immediately recorded in writing. No hot-water bottles were near the axillæ, as had been good-naturedly suggested. Sometimes, when the thermometrical readings were highest, the hands, feet, and forehead were icy cold. The urine, during the period of high temperature, was very scanty, and a mass of lithates; it was passed with difficulty into hot towels, so that neither the amount of urea it contained nor the specific gravity could be estimated; it was found to be free from albumen on three or four different occasions. The bowels were relieved every third day by enemata; the menses recurred once after the accident at the proper date, and were then suppressed until January 26, when they commenced and pursued a normal course. A large chart of the thermometric readings was exhibited to the members of the Society, and showed the rapid alternations of temperature which had occurred, without apparent alteration in the condition of the patient; thus, on November

12. at 10.10 P. M., the temperature was 113.6° ; on the 13th, at 4 A. M., it was 122° ; on the 13th, at 10 A. M., it was 114.3° . During seven weeks the temperature never fell below 108° , and rarely below 110° . Whether the high temperature was due to lesion of the ganglia of the sympathetic, Mr. Teale could not venture to surmise. There was never at any time distinct loss of sensation. The temperature was usually higher in the left than in the right axilla; the left leg was now slightly the weaker; and it was the left ribs which were broken.

At the close of his paper, Mr. J. W. Teale said he regretted that since it was sent in to the Secretary his patient had had a relapse, from which she was still in some degree suffering. After Miss G. had been convalescent for five weeks, he had reluctantly consented to her return home, and the effect of the railway journey of nearly 100 miles had been in some measure to bring back the pain in the back, and a return of the high temperature, which had ranged from 105° to 110° , and which was now again slowly falling. There had been, however, no return of the more serious symptoms which had previously caused so much anxiety.

Mr. CALLENDER said that the temperature, pulse, and respirations of all his cases in St. Bartholomew's Hospital were taken twice daily. In no case of injury to the spine, with recovery, had he known the temperature to be above 107° . If the pulse and respiration, as well as the temperature, had been inserted on the chart, it would have been of service in elucidating the case.

Mr. THORNTON said that, in the case just narrated by himself, when the pulse was ranging from 16 to 24, the temperature was normal.

Dr. GREENHOW said that rarely before had a case so unique or interesting been related to that Society. Cases of hyperpyrexia in rheumatic and typhoid fevers had been often under his care, but a rise of temperature so high as that in this instance he had never witnessed. He had seen a patient with a temperature of 110° , but never one to recover. If a patient with fever had twitchings and a rising temperature, he had felt that, unless the temperature could be reduced by cold, death was almost certain. This case negatived all he had taught for years.

Dr. FARQUHARSON said that the case afforded a very remarkable contrast to a case in which, with dislocation of the first dorsal vertebra and injury of the spinal cord, the temperature fell to 82° . Some observers held that, if the cord was injured near the brain, the temperature was high; others asserted the contrary. Dr. Murchison had laid it down that in fever a temperature of 107° was incompatible with life, even for a day. At post-mortem examinations in such cases, fatty degeneration of the brain and heart was found to have occurred.

Mr. HUTCHINSON expected that one would have to take into consideration the cause of the high temperature in the different cases, and that the maximum temperature laid down by authorities as compatible with life in fevers, would not apply to cases of injury to the spine. There were amongst these cases of injury two apparently opposite classes. After injury to the spine low in the neck, there might be very high or very low temperature without apparently any reason. A man who had received an injury to his cervical spine producing paraplegia, had a temperature which never rose above 4° below the normal. He was quite cold, even to the penis, which was turgid with blood, so that there was continual priapism; his face was quite cold, although he looked to be very well. He died on the fifth day. In such cases, however, there was mostly an exaltation of temperature, often to 110° , within twenty-four hours after the accident. He thought the mischief in Mr. Teal's case was in the spinal cord, although it was not a seriously disorganizing disease.

Mr. PRIDGIN TEALE wished to add his testimony to the acuteness with which the case had been recorded. He himself took the temperature when it was at 110° , and three weeks subsequently at 114° . It was clear that we must give up the idea that temperature *per se* was an element of high danger. No injuries apparently were capable of raising the temperature so quickly to a high degree as those of the nervous centres. A gentleman, who at 5 A. M. received a compound fracture of his skull with crush of brain, was found at 5 P. M. to have a temperature of 109° , and was then dying. With apoplexy the temperature

of the body often rose enormously. He hoped the time would shortly come when physiology might be able to throw some further light on these various points.

Mr. J. W. TEALE, in reply, said that the pulse of his patient never exceeded 120, and was usually between 90 and 100. The respirations were never anything but normal, though sometimes excessively feeble.—*Med. Times and Gaz.* March 20, 1875.

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On a Case of Ligature of the Internal Iliac Artery for Wound of a Branch of the Gluteal.

Dr. LANDI (*Lo Sperimentale*, January and February, 1875) first comments on Bouisson's work,¹ and states that the author reported only four cases of the ligature of the gluteal, one of the sciatic, and four of the internal iliac artery: while Porta, who published his great work in the same year as Bouisson, collected twelve cases of ligature of the latter artery. To these Dr. Landi adds eight others, all (with the exception of two performed in America) operated on by Italian surgeons—Toracchi, Cianfione, Coluzzi, Gallozzi, Porta, and himself.

He first classifies the ligatures of the gluteal artery. It was tied four times for hemorrhage, twice in cases cursorily noticed by Velpeau and by the American surgeon-general, and twice in cases by Baroni and Bouisson, of which a full account is given. Then follow two well-known cases, in which the same artery was tied for traumatic aneurism—Murray's case and Carmichael's. Of these six cases, four were successful. Murray's case was fatal. The issue of the American case is not known. Then follow three cases of ligature of the sciatic for traumatic aneurism—John Bell's, Syme's, and Sappey's.² The two former were successful. In Sappey's case the disease recurred, and the patient was treated by Nélaton with perchloride of iron injection, and, it is believed, with success.

From the history of these cases, Dr. Landi concluded that the diagnosis of the exact vessel affected in traumatic or spontaneous aneurism of the buttock is often difficult, and that other mistakes are very probable between aneurism and abscess, or erectile tumour or cancer; that it is by no means a certain indication in voluminous aneurism of the buttock to tie the affected artery by opening the sac, an operation which may be extremely difficult, and is very uncertain and dangerous; and that in small aneurisms in this region, the best method is to tie the affected artery on the method of Anel, by the operative proceedings which Bouisson has described.

After having discussed the cases in which the gluteal and sciatic arteries have been tied, he then turns to those in which the internal iliac has been operated on. We pass over the observations he makes on the twelve cases referred to by Porta, of which the original case (of Stevens) is the only one the history and *post-mortem* appearances of which have been adequately related. Next we have the accounts, as far as they are published, of the five Italian cases which preceded his own (one of which, that operated on by Professor Porta on a mistaken diagnosis, was recently referred to in our columns), and the few particulars preserved as to the two cases operated on in America; and then he details the case on which he himself operated. The operation was performed on account of repeated arterial hemorrhage from a wound of the nates, which was believed to come from a branch of the gluteal artery (though the wounded artery could not be exactly discovered at the *post-mortem* examination), and which proved fatal, on the seventeenth day after the operation, from pyæmia. The wound had been suppurating for some time, and the patient had had rigors and other bad symptoms before the operation. Out of these last eight operations only one terminated successfully.

¹ Mémoire sur les Lésions des Artères fessières, etc. M. Bouisson, *Tribut à la Chirurgie*.

² Bell's and Syme's are usually regarded as operations on the gluteal artery, and, to judge by the reports of the cases, correctly so.

Then follows a long and able discussion on the indications for the ligature of the internal iliac artery, an operation which this author believes to be preferable in certain cases, contrary to the opinion of Bouisson and Broca, who prefer in all cases the ligature of the affected vessel, either by the method of Anel or of Antyllus, as the case may be.

The cases in which it is better, in Dr. Landi's opinion, to tie the internal iliac, are those of very voluminous aneurism, in which it is doubtful whether it would be possible to find the artery, and in which, indeed, the arterial orifice may be within the pelvis; and those of extensive sanguineous infiltration (so-called "diffuse aneurism"), or sanguineo-purulent collections, in which, from the alterations of the parts, the uncertainty as to the seat of the injury, and the grave condition in which the patient is, it seems useless to attempt to find the wounded vessel.

[This paper is a very valuable one; and is especially useful to an inquirer into this part of surgery, as containing the details of several cases which, being published in Italian journals and works little known in this country, are hardly accessible here. It does not contain, as the author seems to have intended, all the cases which have been published up to the present time; nor, indeed, is it possible for any statistical writer in the present day to pick up all the cases of any given kind which are to be found in the periodicals of various countries. If the author had consulted Fischer's treatise in the 11th volume of Langenbeck's *Archiv*, and the other authorities referred to in the lecture by the present compiler, which is abstracted in the *Archives Générales de Médecine*, for March, 1875, he would have found several other cases of each kind which have escaped his research. But this is a matter of very minor importance, since, after all, if the statistical part of a paper of this kind were even absolutely complete at the moment of its publication, it would probably not be so when some years afterwards it is made the basis of fresh researches. The only important questions are, whether the cases collected together are numerous enough and sufficiently typical to afford the materials for a judgment: and whether the judgment is correct. On both these points the present writer is most happy in being able to agree with Dr. Landi, and is glad to find that the conclusions at which he arrived independently in the above lecture, are supported by an author of so much research, and who has had the opportunity of treating one of these rare and most dangerous cases. The absence of any distinct discussion of the methods of treating these aneurisms by compression of the aorta or common iliac, by galvano-puncture, or by coagulating injections, is perhaps to be regretted. In other respects Dr. Landi's conclusions agree pretty closely with those of the present writer, which it may be permissible thus to state again, as given in the *Archives Générales*.

1. Traumatic or spontaneous aneurisms in the buttock are favourably circumstanced for the treatment by gradual or rapid pressure on the aorta or common iliac.

2. If this treatment be insufficient by itself, it may be assisted by coagulating injections or galvano-puncture, performed while the patient is narcotized and the circulation commanded.¹

3. If such treatment fail, the method of Anel, or that of Antyllus, should be selected if the tumour be entirely outside of the pelvis.

4. And in other cases the ligature of the internal iliac may be practised; but it ought not to be undertaken till all other treatment has failed.—T. HOLMES.]
—*London Medical Record*, May 12, 1875.

Precocious Secondary Traumatisms.

In an article in the *Archives de Médecine* for December, 1874, Professor VERNEUIL designates, under the title of "secondary precocious" traumatic

¹ I meant by this word "commanded by pressure." The reporter in the *Archives Générales* has misunderstood it, and has translated it "régularisé par l'administration de la digitale."—T. H.

neuralgias, more or less acute pains in the traumatic focus, its neighbourhood, and even at a great distance from it, taking on the neuralgic character and intermittent type, not susceptible of explanation by the ordinary causes of traumatic pain, resisting antiphlogistics and narcotics, and easily yielding to sulphate of quinia. These neuralgias are not uncommon, and M. Verneuil's study is not only interesting from the point of view of general pathology, but also on account of the patient, whose cure is retarded, and even endangered, by them, whilst they can be quickly cured by sulphate of quinine. The secondary pain presents five varieties: 1. Local pain, limited to the seat of the traumatism. 2. Local pain with peripheric irradiation. 3. Local pain with peripheric indolence and distant manifestation. 4. Simultaneous peripheric and local pain. 5. Local indolence; distant pain only. In order to establish the existence of these varieties, M. Verneuil reports a series of cases which is very complete, and in many ways very interesting. He has the happy power of enriching his text as he goes on with many very valuable hints borrowed from his surgical practice and from ingenious researches on different points of surgical pathology. In one part we meet with an account of the laborious ablation of an enormous parotid tumour; in another, a case of extirpation of an enormous tumour of the breast, whilst amongst the notes we find a short description of a special plan of dressing for extensive wounds of the face, neck, and breast.

Whatever may be the nature of the traumatic lesion, all the numerous patients whose cases are reported show an occasionally very intense neuralgia, with repeated attacks which have yielded to sulphate of quinia. In the second part of his paper, M. Verneuil makes a careful investigation of the phenomena accompanying secondary traumatic neuralgias. In the muscular system there are clonic spasms of contraction, want of power in the limbs, simulating partial paralysis. In the vascular system at the epoch of the neuralgic attack there occur local congestions and even hemorrhages, as intermittent as the neuralgic attacks. Sometimes the wound assumes a diphtheritic appearance, and in some cases even the distant neuralgic attack is a precursory symptom of a local phlegmon or an attack of erysipelas. The general phenomena are not very marked as a rule. Precocious secondary traumatism is in itself apyretic; it may, however, be preceded, followed, or accompanied by fever, but this is a simple coincidence. The neuralgic attack is, however, in some cases followed by the appearance of herpetic vesicles on the lips or face. M. Verneuil has already called attention at the Société de Biologie, in May, 1873, to the appearance of herpes labialis as a critical symptom in traumatic lesions.

The pathogenesis of precocious secondary traumatic neuralgias, their etiology, diagnosis, and treatment, complete the study. The relations of these painful attacks to impaludismus rheumatism and other general affections are shown with M. Verneuil's well known care, in the investigation into the relations between traumatisms and diatheses. He has long since pointed out that a traumatism may bring on the reappearance of a diathesis which had not made itself manifest for a shorter or longer period; traumatisms show a true revival of diathesis. The study of precocious secondary traumatic neuralgias, according to M. Verneuil's method, will form the basis of a future chapter of surgical pathology forgotten up to this time—pain in traumatism.—*London Med. Record*, June 2, 1875.

New Forceps for Keeping the Eustachian Catheter in Position.

For those who desire some means more than the fingers afford of keeping the Eustachian catheter in position, the forceps described by Dr. DELSTANCHE-SOHN, of Brussels, in the *Archiv für Ohrenheilkunde* for March, may be useful. It consists of a flat piece of fish-bone of about two millimètres thick and one centimètre broad, bent while heated over a lamp into the shape of the letter M, with the ends of the long arms approaching each other, and then dipped into cold water. The ends are covered with small pieces of caoutchouc tubing, and placed so that one end presses on the side of the nose furthest from the catheter, and the other presses directly on the catheter, thus fastening it against the nasal septum. Dr. Delstanche-Sohn thinks this instrument has the

following advantages: 1. It costs nothing, is easily applied, is of simple construction, and preserves for a long time, even with daily use, the necessary amount of elasticity. 2. It presses directly, and in the most advantageous direction, upon the catheter. 3. On account of its lightness and elasticity it causes no inconvenience to the patient. 4. It is prevented from slipping by the caoutchouc covering the ends. 5. It does not interrupt the breathing of the patient through the nostrils.—*London Med. Record*, May 19, 1875.

Midwifery and Gynæcology.

Use of the Hand to Correct Unfavourable Presentations and Positions of the Head during Labour.

Dr. JOHN S. PARRY read before the Obstetrical Society of Philadelphia (*Am. Journ. of Obstetrics*, May, 1875) a very interesting paper on this subject. Attention was called to the use of the hand—1. to flex the head when partially extended in all its presentations; 2. to transform occipito-posterior into occipito-anterior positions; 3. to change presentations of the face with the chin behind, into those of the vertex with the occiput in front.

Dr. Parry expressly states that the manipulation which he describes and advocates is only to be resorted to in those rare cases in which nature is not equal to her work, and after the more common means have been fairly tried and have failed, when the only other alternatives are version under great difficulties, or if this proves unavailing, craniotomy. The procedure is applicable to cases in which the head is arrested either at the brim or in the upper portion of the cavity of the pelvis.

The operation may be performed with the patient upon her back or in the ordinary obstetric position on the left side. The former is far preferable in most instances, as it allows more freedom of manipulation, and the back of the hand applies itself more perfectly to the hollow of the sacrum. The patient should be brought close to the foot of the bed, with her buttocks at the edge of her side, and her feet supported on two chairs or by assistants. The physician now takes his position at the foot of the bed and at the right side of the woman. Previous to proceeding with the manipulation the patient should be thoroughly etherized, since the best directed efforts may fail if she is not perfectly relaxed. This done, and the bowels and bladder having been emptied, the accoucheur is to pass his right hand, well oiled, into the cavity of the pelvis, the dorsal surface of the fingers being passed along the hollow of the sacrum over the posterior portion of the presenting part, and the thumb behind the pubis over its anterior portion. In the mean time the left hand has been applied to the fundus of the uterus to steady that organ. This accomplished, the next movement is to carry the head of the child, which lies in the palm of the hand in the vagina, well up above the brim of the pelvis. The following steps of the operation vary with the presentation and position. If it is simply a partially extended vertex, or a brow-presentation with the occiput in front, the head is simply flexed, after which the case may be left to nature, or the forceps applied, as may seem best.

If the case be one of a face-presentation, with the chin behind, the head is to be completely flexed, and the presentation and position changed to the most favourable of all others, an occipito-anterior of the vertex.

In occipito-posterior positions of the vertex more is needed than simple flexion. The head of the child is grasped in the hand with the fingers over the occiput and the thumb over the forehead or temple. Having lifted it above the brim and secured flexion, the left hand is to be removed from the fundus of the uterus where it has been employed in simply supporting the organ. It

is now to be used to force rotation of the body of the child by external manipulation, the anterior shoulder being the point against which these efforts may be directed with the most effect. While the shoulder is being pushed to the opposite side of the cavity of the uterus, the hand in the vagina acts upon the child's head, and rotates the occiput from a posterior into an anterior position, of course imitating nature in the manœuvre, and changing a right posterior into the right anterior position, and a left posterior into the left anterior occipital position.

If the uterus will now contract strongly, the hand may be retained for a little time until the head is fixed in its new position, when the case may be left to nature. If the pains have ceased the forceps are to be applied above the superior strait, before the hand is removed from the vagina. Inasmuch as this may be necessary, this instrument should always be at hand before commencing the manipulation. For the same reason the patient is to be placed in a position in which the application of the forceps may be made at any time, and because the blades of the instrument have to be carried high up, it is necessary that the buttocks be placed close to the edge of the bed, so that the handles can be pushed well back on the perineum. For precisely the same reason the right hand only should be used to act upon the child's head, since the right or male blade of the forceps has to be introduced with the left hand.

The application of the forceps is not more difficult under these circumstances than in the ordinary high operation, except that the blades have to be passed up rather higher than when the head is driven down upon the brim by the uterine contractions. Some care has also to be taken to prevent the head leaving the new position during the introduction of the first blade, but more especially immediately after the removal of the right hand and during the preparations for the introduction of the second blade. The first blade having been put into position, the hand should not be removed too soon, not until the head has been carried to the opposite side of the pelvis, when the blade of the forceps fairly applied to the side of the child's head is to be used as a lever in the absence of the hand to fix the presenting part against the pelvic wall of the opposite side, in order to prevent the possibility of its returning to its original position. At this point in the operation an intelligent assistant, or at least one who can be trusted to execute all directions faithfully, is necessary to steady the blade while its fellow is being introduced. The left blade of the instrument is to be introduced as in ordinary cases, the accoucheur having always assured himself that the head has not changed its position previous to its introduction.

Extra-uterine Pregnancy.

CONRAD relates, in the *Correspondenz-Blatt für Schweizer Aerzte*, No. 5, 1874 (abstract in *Centralblatt für die Med. Wissensch.*, No. 49, 1874), three cases of extra-uterine pregnancy which occurred in Professor Breisky's practice. In the first case, the woman had not previously borne children. At the third month, after moderately severe symptoms, the existence of abdominal pregnancy was diagnosed, originating in tubal pregnancy on the left side. The fœtus formed a round encapsuled tumour, which could be felt through the thin abdominal wall. About four and a half months after the passage of the fœtus into the abdomen, an opening in the wall of the latter formed, through which escaped rudiments of fœtal membranes and bones (ribs, cranial bones, and diaphyses), together with an offensive discharge. Six months later, the fistulous opening was closed, the patient was in good health, and a small painless tumour lay to the left of the uterus. In the second case, the pregnancy was complicated with the discharge of a mole; and the fœtus is described as presenting indications of calcification. This patient also survived. In the third case, peritonitic symptoms appeared at about the third month of pregnancy. The diagnosis during life hesitated between sacculated pelvi-peritonitis and retro-uterine hæmatocele, the possibility of extra-uterine pregnancy being also admitted. A puncture through the rectum from two and three-quarters to three inches above the sphincter ani gave exit to some coagula, and a little more than

an ounce of fluid blood. Eight days afterwards, sudden collapse set in, and the patient died. A decomposing sac was found, apparently formed only of the lymph by which the intestines were adherent; it contained the bones of a three months' fœtus, and communicated by an opening with the rectum.—Dr. Bandl relates, in the *Wiener Medizinische Wochenschrift*, No. 32, 1874, the case of a woman, aged 35, who was admitted into hospital under the care of Professor Braun, with two distinct enlargements of the abdomen. The larger one, which lay to the left, contained a living fœtus; the nature of the second, to the right, was not obvious. The uterus was empty. In the third month of pregnancy, the patient had felt symptoms which indicated the passage of a fœtus into the abdomen. The patient refused operation, and died in severe pain; there was high fever. Five minutes after death, Dr. Bandl removed a child weighing nearly nine pounds: it was in a state of asphyxia, and died in ten minutes. The cavity in which the fœtus lay was formed in front and behind by the abdominal walls, which were covered with a thick false membrane, also by the small intestines, which were matted together, and by the ascending and descending colon: below, it was formed by the pelvic viscera, which were also matted together. The uterus lay to the left, and was five inches long. The tumour which had been felt towards the right side, was found to contain the placenta. The membranes had become entirely retracted from the fœtus, and formed a brown-yellow wrinkled envelope to the umbilical cord near the placenta.—*Brit. Med. Journ.*, May 15, 1875.

Indian Hemp in Post-Partum Hemorrhage.

Dr. Ritchie read before the Obstetrical Society of Edinburgh (*Edin. Med. Journal*, June, 1875) a communication from Mr. WILLIAM DONOVAN, of Cork, on this subject, and stated that, so far as he is aware, there is no mention made in any work on either midwifery or therapeutics of the action of Indian hemp on hemorrhage from the uterine cavity.

In cases where flooding set in after delivery a full dose of the tincture of Indian hemp (℥xx.) has, in every instance in Mr. Donovan's experience, acted rapidly, checking the loss in a few minutes, even when ergot had failed. Mr. D. has also found that it possesses the power of controlling and relieving metrorrhagia and profuse menstruation in a marked degree. What the rationale of its action is he does not know.

Ergot as an Antidote for an Excessive Secretion of milk and Inflammation of the Breast.

Dr. J. SCHTSCHERBINENKOFF has made the interesting observation (*Centralblatt für Chirurgie*, May 8, 1875) during an epidemic of *secale cornutum* in the district of Simbirski, that amongst the symptoms of ergot-poisoning is the diminution or complete arrest of the secretion of milk in lactating women. The same result was found to occur in cows that had been fed on meal which contained ergot, or that had been littered with carelessly threshed straw which still contained some affected ears. Schtscherbinenkoff conceived the idea of employing it as a remedy in cases of threatened abscess of the breast, and carried it out in many cases with great advantage. Two multiparæ who had suffered at each previous confinement from abscess of the breast, took some of the drug with the happiest result, as soon as swelling began to appear, accompanied by congestion of the gland with milk. He has also administered ergot and quinine, in doses of three grammes of each, twice or thrice a day in cases of so-called milk fever, and has found the drug useful in cases of swelling of the breast accompanied by fever in other than puerperal women, as well as in those where it is required to wean the child either at the normal or at an earlier period. He has exhibited as much as a drachm of ergot daily for a week without observing any unpleasant result.—*Med. Times and Gazette*, May 29, 1875.

The Non-existence of Puerperal Fever.

Dr. SIRÉDEY (*Annales de Gynécologie*, March and April, 1875) discusses this question at some length, and thinks that, in preserving the denomination of puerperal fever, we perpetuate an error, and maintain the confusion and obscurity upon a question that it is of the highest importance to elucidate.

In typhoid and scarlet fevers, there are well-marked characteristic lesions, identical, constant, and precise, serving to indicate the type of fever. But in puerperal fever is it so? Are not the lesions found *post-mortem* numerous, variable, and inconstant? Peritonitis is the affection which one meets with most often at the necropsy of parturient women; but this is seldom primary, and almost always coexists with inflammation of the uterus and its appendages, the lymphatics, and sometimes the veins; it is, therefore, very important to distinguish these lesions.

After criticising the opinions of many eminent authors, he gives his own conclusions in justification of the heading to his subject. He thinks that inflammation of the lymphatics is met with incomparably more often than phlebitis; and, if we recall the very intimate connection of the lymphatics and of the veins with the peritoneum, and the frequency of peritonitis in puerperal affections, we are led to consider the malady called puerperal fever as being most frequently only lymphangitis. Much confusion has for a long time existed between phlebitis and angioleucitis, and it is only by studying the subject clinically that we can arrive at any definite conclusions.

Rigor or *shivering* is one of the first symptoms observed at the commencement of both affections. In angioleucitis it is exceptionally absent, or of such slight intensity that it escapes attention. In phlebitis, rigor is never wanting; it is extremely violent, lasting fifteen, twenty, or thirty minutes, succeeded by a stage of heat, and then sweating. The temperature, which has risen possibly to 104 degrees Fahr., now diminishes to nearly the normal standard, as in a paroxysm of ague. A fresh rigor occurs, and the same symptoms are repeated, in some instances as many as fourteen rigors occurring in the course of the disease. In lymphangitis, the rigor occurs shortly after labour, and generally from the first to the fourth or fifth day. In inflammations of the veins, it rarely appears before the sixteenth day, and often later.

The temperature also presents characteristic differences. In lymphangitis it rises to 104 or 106 degrees Fahr., and remains nearly at this standard. In phlebitis, on the contrary, we notice a progressive augmentation of the temperature until the appearance of the first rigor, when it reaches, as in the other affection, to 104 or 106 degrees Fahr.; but, the febrile accession passed, it recedes many degrees, to mount again on the recurrence of a fresh rigor.

Pain constitutes also an important sign. We must be careful not to confound that due to uterine contractions following parturition, after-pains, or pain produced by a distended bladder from the pain due to inflammation. In lymphangitis, it is fixed, constant, permanent, and extremely acute, existing even without pressure being necessary to elicit it. Soon it extends over the lower abdomen, and becomes generalized; the abdomen also becoming distended. In addition—and this is a sign of great value—one of the lateral *culs-de-sac*, or both, present a peculiar induration, due to œdema determined by the lymphadenitis. In phlebitis, the pain is far from being so constant or manifest. It is only discovered on pressure; it is much more circumscribed and more limited than in lymphangitis, and peritonitis is less frequent. At the same time that the inflammation develops itself in the veins and uterine sinuses, we observe other painful manifestations in different parts of the body; phlebitis in the lower extremities, arthritis, tendinous synovitis, pleurisy, pericarditis, and secondary pneumonia; all of these being remarkable for their tendency to go on to suppuration. Nothing is more common than to find pus in the serous articulations or the viscera, and metastatic abscesses in the parenchymatous organs, the liver, the lungs, and the kidneys. The presence of pus in the cellular tissue and in the viscera, or, in other words, purulent infection, is an habitual consequence of puerperal phlebitis. On the contrary, we never observe anything similar in lymphangitis. In exceptional cases, where pus has

been found in the thoracic duct, no visceral lesion having the least analogy with purulent infection has been discovered. Angiolencitis is, therefore, much more localized, is concentrated entirely in the abdomen, and produces rapidly a peritonitis which eclipses and takes its place in the symptomatic display. On the other hand, phlebitis produces abdominal phenomena less intense, but reveals its existence by multiple lesions, evidencing the invasion, general and progressive, of the economy by pyæmia.

The expression of the *physiognomy* is not the same in the two affections. At the commencement of lymphangitis the face is red and animated. Later, when the peritonitis is confirmed, the appearances alter, the eyes become hollow, the nose sharpened, and the countenance pale; but it never presents the earthy aspect, yellowish subicteric hue that one often meets with in the early rigors of phlebitis.

Finally, the *progress of the malady* varies. In angiolencitis it is very rapid; death supervenes eight or ten days after delivery, and in severe cases even in two or three days. Phlebitis runs a longer course, which varies from two to many weeks. The malady commences later, develops slowly, with alternate aggravations and remissions; and, when it terminates fatally, we observe symptoms of purulent infection.

The author agrees with Pajot that the term puerperal fever should be relegated to the museum of antiquities.—*British Med. Journ.*, May 22, 1875.

Erysipelas and Puerperal Fever.

MR. SPENCER WELLS, in his address on puerperal fever before the Obstetrical Society of London, said: "A country surgeon attends a man who has erysipelas after a broken arm. He also attends a healthy woman in an isolated cottage in a natural labour. There is no puerperal fever in the district, yet this woman dies of puerperal fever. . . . Such a history as this would have tenfold weight, as being free from numerous sources of fallacy and doubt."

MR. S. N. SQUIRE, of Wivenhoe, reports (*British Med. Journ.*, May 22, 1875) a case which occurred in his practice which presents the conditions prescribed. "On the night of February 11th last, my assistant went to attend a man who had fallen down and cut his head open over the occiput down to the bone. The wound was about an inch long. On the second night, it bled, evidently from a small artery, which he arrested by a compress of lint. On the 20th, the man was taken very ill. I myself went to see him, and found that he had been suffering from rigors. I examined the wound; the scalp was somewhat swollen. I carefully washed and dressed the part. The same evening I was called to attend a woman in confinement (age about 37, fifth child), who had a natural labour. The next day I found that the man was suffering from erysipelas; it was running down over the forehead. On the 22d the woman had a chill, with all the symptoms of puerperal fever setting in. She died on the 27th; the man likewise died on March 1st. I took every precaution whilst attending other cases, and did not wear the same external clothing; so I did not infect any other lying-in-woman. Early on March 3d I attended another woman (age 22, second confinement) who, on the day following, had all the symptoms of the previous case. I questioned the nurse, as she came from the village where the man died, whether she had been in the house. She informed me she had been there to assist, and left that place direct to go to the woman in labour. That case terminated fatally on the 10th. The child had erysipelas at the navel, which spread all over the body; it died on the 18th. A nurse, who was in almost constant attendance upon the man, had an abrasion on the nose; she had erysipelas on March 3d, and died on the 7th. Whilst attending the man, I was also daily dressing two women, each for an ulcerated leg; both had erysipelatous inflammation of the leg. The husband of one, an old man, aged about 78, had erysipelas over the head and face, from which he got better, but died of exhaustion on May 6th. A son of the old man's master called to see him on April 25th; he had a slight scratch on the septum of the nose. On the

27th erysipelas made its appearance, and spread over the face, from which he has now recovered.

"To go back again to the first case. On March 13th, a woman, who had been several times to see the man (whose house was directly opposite her own) had a severe attack of erysipelas over the head and face; she recovered. A young woman likewise visited her, and at the same time had her ears pierced for rings; erysipelas affected them, and spread rapidly over the head and face. She recovered after a severe attack. During the interval of the two puerperal cases I attended other women, who escaped infection. Thus, I had nine cases of erysipelas and two of puerperal fever, with six deaths, all to be traced from the first. In looking over my midwifery list, I find I had previously attended 1139 cases without losing one. I have been in practice twenty-five years, and, during that time, I have only lost four cases, not including the last two I have previously mentioned. One died of inflammation of the lungs, three days after confinement; another (a turning case) of peritoneal inflammation, three weeks after confinement; another of scarlet fever; and the fourth of puerperal fever, the cause of which I could not discover. I generally make it my practice, if I have any contagious disease about, to visit my childbed cases first; the doing so, I think, is one reason why my death-rate is so low. Idiopathic erysipelas I consider not contagious; but traumatic, being caused by pyæmia. I think is, and I hold that it would be very unwise to attend a labour directly after visiting such a case. I have had many cases of the former kind, but cannot now remember ever losing one, nor have I seen that another person has taken it from one so affected."

On a Case of Complete Congenital Closure of the Vagina and of the External Os Uteri, with Consequent Hematometra and Acute Peritonitis.

Herr KRUMPTMAN relates (*Medicinisch-Chirurgisches Centralblatt*, April 16) a case that came under his observation in a girl sixteen years old, who presented symptoms of acute peritonitis when first seen. On the subsidence of the urgent symptoms, an ovoid movable tumour was perceptible in the hypogastric region. As she had not menstruated, although the monthly menstrual molimen was present, an examination was made; the external genitals were well developed and normal; the hymen was imperforate; the vagina could not for a certainty be ascertained. The hymen was perforated with a trocar; a rudimentary vagina could be felt; but no menstrual flux came away on the removal of the trocar. The vagina was then dilated with sponge-tents, and the cervix, which was low down, could be readily felt. No external os could be found, although its position could be recognized. An opening half an inch long, was made by a bistoury into the cervix, and about five and a half pints of grumous material expelled. A sponge-tent was placed in the wound; but the pain could not be borne, and it had to be removed. The patient made an excellent recovery, the uterine opening not closing. She married two years afterwards, became the mother of four healthy children, and eventually died, fourteen years later, of cancer of the womb.—*London Med. Record*, May 19, 1875.

On the Evacuation of Hematometra through the Bladder after Dilatation of the Urethra.

In No. 20 of the *Berliner Klinische Wochenschrift*, there is a brief communication from Professor SIMON, of Heidelberg, in which he states that an article in No. 16 of the same journal for the current year from Dr. Spiegelberg, of Breslau, on "Fissures of the Neck of the Bladder," had attracted his attention, because Spiegelberg mentions, without details, a case in which he had opened a hæmatometra through the bladder, after first dilating the urethra, and that no injury to the bladder resulted. Simon states that he has for a very long time advocated this method in his lectures, and at least a year ago (April 21, 1874), he proposed it at a large meeting of professors and practical surgeons

at Heidelberg, as the best method where there are objections to an opening between the rectum and bladder. Professors Hecker, of Munich; Schulz, of Jena; and Olshausen, of Halle, were present when he explained his reasons for preferring this to the opening through the rectum advocated by Scanzoni and Baker Brown. Dr. Bidder, of Mannheim, also present, in an article in the same journal, of November 16, 1874 (No. 46), on a "Case of Hæmatometra of the Uterus," writes as follows: "You must also allow me to remind you that we cannot always succeed in restoring the natural way to the uterus by separating the vaginal walls, or through artificial restoration of the vagina, and in such cases we must not forget Professor Simon's proposal. In such cases Simon would dilate the urethra, easily done by proper specula, and then push through the posterior wall of the bladder into the uterus below the peritoneum, making a free opening there, through which the retained blood may escape easily and with comparative safety."

Simon adds that he has given details of the operation in an article (already in the press) entitled "On the Means of Rendering the Bladder Accessible, and on Sounding the Ureter in the Female." It is to appear in Volkmann's *Sammlung Klinischer Vorträge*.

[It is not quite clear whether the author refers to congenital or to acquired collections of blood within the uterus. From the extract given from Bidder, it would rather seem that cases of imperforate hymen and atresia vaginæ, and cases of occlusion of the os uteri with obliteration of the vaginal canal from accident or disease, are both included, provided that the uterus becomes filled and distended with blood, and that the natural outlet is obliterated.]—*London Med. Record*, June 2, 1875.

— *Electricity in Cases of Antelexion and Retroflexion.*

M. TRIPIER was led to employ electricity in these cases by observing that, in a case of encysted hydrocele of the cord, the spermatic artery could be felt pulsating as long as the electric current was being applied, but not at any other time; from this he concluded that the electric current produces hyperæmia during its application. Also, since the contraction of a muscle determines the amount of its nutrition, if it can be incited to contract, its nutrition can be increased. If, therefore, it were possible to localise the electric current to one or other wall of the uterus, that part would be incited to contract, and so counteract a flexion in the opposite direction. M. Tripier has had a sound constructed with a curve corresponding to that of the sacrum. At its extremity is an olive-shaped knob, the stem being isolated. This can be passed into the rectum, and the extremity brought into contact with the posterior wall of the uterus. A similar sound, but without the sacral curve, is now passed into the uterus; and, when both sounds are connected with a battery, the current passes through the posterior wall of the uterus, causing it to contract, and thus lessening any antelexion that may be present. In cases of retroflexion, the second sound is passed into the bladder and placed against the anterior wall of the uterus; the result being, that retroflexion is lessened. In both cases, the uterine sound is connected with the negative pole of the battery. The pain is of two kinds: first, that caused by the sensibility of the mucous surface to the electric current, and, second, that caused by the contraction of the uterus, which is generally the more severe. M. Tripier has never known inflammation caused by this proceeding, or the pains to persist after the circuit has been broken. At the commencement, the current should not be strong, but should gradually be increased till uterine action is aroused. As soon as this takes place, the current should be maintained at the same intensity for about three minutes. The sittings should be commenced about fifteen days after a menstrual period, and continued daily during the first month till the period. During the second month, the sittings may be less frequent. Fever contraindicates the use of electricity, as the pains are then very severe. In cases of simple congestion, relief has usually followed the second or third sitting. Absolute rest is not essential; on the contrary, exercise is beneficial to the patient, and any fatigue felt will be removed after the application of the electric current.—*British Med. Journal*, March 27, 1875, from *Gazette Obstét.*, July 5, 1874.

Case of Complete Inversion of the Uterus.

Dr. A. VOELKEL, of Berleberg, communicates to the *Berliner Klinische Wochenschrift*, March 15, 1875, a case of complete inversion of the uterus occurring fifty-two hours after delivery. It happened in a primipara, aged thirty-two. When she was first seen by Dr. Voelkel, she had been thirty-six hours in labour; the membranes had been ruptured ten hours. The child's head was found firmly impacted in the pelvis in the first position with a large *caput succedaneum*. Delivery was effected by the forceps after three hours' hard work. The uterus did not contract well after the expulsion of the child, and the placenta was forced out by Credé's method. Immediately upon the delivery of the after-birth, severe flooding set in, which was with difficulty arrested by cold-water injections into the uterus, and the internal administration of ergot. The patient did very well up to the morning of the third day, when severe after-pains came on, coupled with an ardent desire to micturate. Warm fomentations were ordered to the abdomen. Towards evening the pains became stronger and more frequent, with a sensation as if something wanted to pass out of the vagina. Suddenly, at eight o'clock, with a strong expulsive effort, a globular body was forced out of the vulva, instantly followed by a gush of blood, and in a moment the patient was dead. When seen by Dr. Voelkel, four hours afterwards, the tumour proved to be the uterus completely inverted lying outside the vagina. No necropsy was made. The patient had always flooded at her menstrual periods.—*London Med. Record*, June 2, 1875.

The Internal and External Application of Chloral Hydrate in Carcinoma Uteri.

Herr FLEISCHER (*Medicinisch-Chirurgisches Centralblatt*, No. 9, 1875) strongly advocates the use of this drug in this affection. He is in the habit of applying it locally in the following manner: The vagina being first of all well washed out with water injections, a piece of cotton-wool is dipped into a solution of chloral hydrate (two drachms to three ounces), and passed up to the carcinomatous surface; this is repeated every two hours; after the second, or third at the most, the character of the pain becomes altered, and the discharges less offensive. Its internal administration he prefers *per rectum*, as it is not so liable to become abused by the sufferer, and its effect can be better regulated, as it loses its effect much more slowly than by the mouth. Its chief advantage over morphia is that it has no confining effect on the bowels.

[Dr. Goodell, of Pennsylvania, also speaks highly of the local application of chloral, especially in reducing the offensiveness of the discharges.]—*London Med. Record*, May 19, 1875.

Medical Jurisprudence and Toxicology.*What Constitutes a Live Birth?*

Dr. JOHN J. REESE, Professor of Medical Jurisprudence and Toxicology in University of Pennsylvania, contributes to the *Philada. Med. Times* (May 29, 1875), an important paper on this subject.

By the old English law which has been in operation for centuries, and which is recognized at the present day in several of the United States, the husband of a deceased wife who dies seized of an inheritance acquires a life interest in such inheritance, *provided* there was issue born alive. In the State of Delaware, which still retains the old English law on this subject, an important case lately occurred in which this principle was involved. The case (*Stout vs.*

Killen) was tried in Dover, May 4, 1875, before the Superior Court of Delaware, the Hon. Judge Gilpin presiding, on a writ of ejectment brought against the defendant for the recovery of a property that had passed into his possession, as "tenant by courtesy," on the death of his wife some years previously, through an infant alleged to have been born alive, but which survived but half an hour. The plaintiffs (the wife's heirs-at-law), on the other hand, affirmed that the child was not born alive, and, consequently, that the estate did not pass to the husband. Here the whole case virtually turned upon the question of the live birth, and this, of course, involved the important query of what constitutes a live birth.

Two highly respectable physicians who attended the lady in her confinement testified that the labour was a protracted and difficult one, requiring the use of the forceps. The patient, moreover, had convulsions. The child was large and fully developed, the chest was rounded, the lips were ruddy, the general colour of the body natural (not livid). The umbilical cord distinctly pulsated for about twenty minutes after complete delivery; it was then cut. The heart and temporal arteries beat distinctly all this time, *and continued so to do for five or six minutes after the severance of the cord*. There was no perceptible respiration, and of course no cry; nor any spontaneous movements of the body observed. All the usual restorative measures were practised, but without effect; all evidences of life ceasing about half an hour after the birth. Both the physicians testified that they regarded the child as born alive.

As one of the expert witnesses called for the defence, Dr. Reese had no difficulty whatever in giving an affirmative answer to the question: Was this child born alive? and in this was ably supported by Prof. Penrose, of the University of Pennsylvania, and by several distinguished physicians of Dover. Dr. Reese bases his opinion upon the following data.

"It has long been a settled point in law, founded upon a recognized physiological fact, that respiration (or crying), although an important evidence of live birth, is by no means the *only* evidence. It is admitted that a child may be born and die without breathing; so that the wilful destruction of such a child is just as much murder as if it had cried lustily and moved its limbs vigorously. What the law requires in such cases is simply *proof of life*, not proof of respiration. Now, if life can be proved by other means than by respiration, the law's demands will be satisfied. I think we must admit that the pulsation of the child's heart and arteries, after its full extrusion into the world, and especially after severance of the umbilical cord, is a good evidence of life. Certainly the heart does not beat nor the pulse throb in a *dead* child; and there is no alternative between a dead child and a living one. Again, there can be no pulsations in the funis of a dead child; we all know that one of the surest signs of death in a child during parturition is the cessation of the pulsations of the cord. Furthermore, the redness of the lips and the healthy (not livid) appearance of the body, together with the rounded condition of the thorax, were highly suggestive of a feeble, though imperceptible, respiration.

"The only attempt on the part of the plaintiffs to rebut this testimony was by alleging that this (admitted) life in the child was merely the remains of its intra-uterine life—'a prolongation of its foetal life'—extending its influence beyond the period when the child was separated from its mother, and galvanizing, as it were, what was in reality a lifeless mass of flesh and bones! This latter doctrine we hold to be untenable. The child was either alive or dead at its birth. Confessedly it was not born dead. No one would presume to bury an infant with its heart and arteries beating, and with a natural appearance of its lips and skin, even though it did not visibly breathe. Such a 'prolongation' of life was, by the plaintiff's counsel, likened to the *momentum* imparted to a piece of machinery and retained for a while after the impelling power had been withdrawn. Here, the motion might, in truth, be said to be merely the 'remnant' of the antecedent power, and one that must of necessity soon come to a stop. But there is this immense difference between the two cases, which, at first sight, might seem so analogous: the machinery is but dead matter, subject merely to the laws of inertia; whilst the infant is endowed with a living organism capable of maintaining its own existence, provided it be furnished with the

conditions of life. This idea is further sustained by the well-known fact that many infants born apparently dead, and remaining for some time in this state, do actually revive and continue to live. I admit that, in a very important sense, its extra-uterine life was a 'prolongation' of its foetal life, but precisely in the same way as it is in all our bodies. Certainly there is no *new* life imparted to a child after it is born. The principle of life mysteriously contained in the vivified germ is the same life continued on in the matured man, only developed. The life of the oak of a century's growth is essentially the same life that evidenced itself in the first swelling of the acorn beneath the soil. All we contend for is *life*, not the amount or quantity of life, but the fact of life; and this latter, we think, was abundantly established by the evidence.

"Besides, the rulings of the courts, both in England and this country, have settled the question, in deciding that respiration (or crying) on the part of the new-born child is not required to establish the proof of a live birth, provided there are other evidences. Undoubtedly, the best physiological test of life is the pulsation of the heart. It is a more satisfactory proof than respiration, inasmuch as, in ordinary cases, life terminates in the heart, and not in the lungs or brain, since the heart is found to be beating some time after all evidences of breathing have ceased. The well-known experiments of Sir B. Brodie on animals also confirm this assertion. We do not pronounce a dying man to be *dead*, however feeble or inaudible his respiration may be, so long as we can feel or hear the throbbings of his heart; certainly we would hardly think it right to entomb such a person. And what is true of the man in this regard may be equally affirmed of the new-born infant.

"This Delaware case may be regarded as a leading case in this country, and the finding of the jury (which was for the defendant) may be considered as establishing an important precedent in cases of a similar character."

On Microscopic Examination of Blue Lines on the Gums supposed to be due to Lead-Poisoning.

La Revue Médicale for April 12, 1875, quotes a paper by Dr. GRAS on this subject from the *Archives de Médecine Navale*. He insists strongly that the lead-line is no mere deposit of that metal in or on the epithelial cells or connective tissue of the gum. It is due to a transformation of a soluble salt of lead into a sulphide of that metal during the slow circulation of the blood in the very minute capillaries of the gum. He says the demonstration is exceedingly simple, and almost painless. When we are in doubt whether a given blue line on the gum be due to lead or not, we should excise a fragment of the gum containing the line with a fine sharp scalpel or the point of a lancet, wash it with a camel's hair pencil, and add a drop of glycerine; if necessary, flatten it out with needles, and examine it under the microscope with a low power. If the line be due to lead, in the midst of the normal tissues of the gum, we shall find capillaries injected, filled and obstructed by blackish granules. These capillaries are in loops, or semicircular, or like double hooks, the outlines varying somewhat according to the section. In very old lead-lines the capillary walls are less evident, and their outlines somewhat indistinct. If a piece of buccal mucous membrane be excised, we should use carmine with glycerine, and a little dilute acetic acid, which shows the mucous papillæ, and the capillary network. He suggests that in fatal lead-colic, the intestinal capillaries and the nerves of the solar plexus should be examined in the same way for lead. [The Reporter does not know to whom the credit of the suggestion belongs, but it has long since been proposed to examine the lead-lines by a simple microscope, or in other words a one or two inch biconvex lens; when, if in the capillaries, as the true lead-line is, it will be seen clearly to be dotted, and to follow the course of the vessels. It will thus be seldom necessary to remove any of the gum in the living subject, though after death this suggestion of M. Gras may doubtless be of considerable use.]—*London Med. Record*, May 12, 1875.

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(For List of Contents see last page.)

AUGUST, 1875.

Anatomy and Physiology.

Atmospheric Pressure on the Joints.

The current opinion has hitherto been that the influence of atmospheric pressure in retaining the two surfaces of a joint in contact is, with the exception of the hip-joint, only exerted on the joints as long as the soft parts, especially the capsule, remain intact, and that a simple opening into the latter is sufficient to destroy it entirely. Prof. CH. AEBY, of Berne, however, in a preliminary communication to the *Centralblatt*, March 27, 1875, p. 228, announces the startling fact that, according to experiments which he has lately instituted, in the greater number and the most important of the joints in the human body the atmospheric pressure is fully adequate to retain the surfaces of their constituent bones in contact, even after the division of all the soft parts, including the capsule. This statement is true of the shoulder-, elbow-, and wrist-, as well as of the hip-, knee-, and ankle-joints, and the experiment succeeds in nearly every natural position of the joint, so that the extremity below any particular articulation can be made to swing within its normal limits of flexion, supported by the pressure of the air alone. Thus, as Prof. Aeby expresses it, "when it is found that the arm will hang completely disarticulated in the shoulder-joint, the forearm in the elbow-joint, or the hand and fingers in their respective joints, no further proof is required that the ordinary teaching with regard to the relation of air-pressure to the joints is completely erroneous." Prof. Aeby will shortly publish his experiments and deductions made from them *in extenso*. We may here add that Dr. FR. SCHMID (*Deutsche Zeitschrift für Chirurgie*, v. 1874), has lately found by experiment that the atmospheric pressure which retains the surfaces of the hip-joint in contact is not only sufficient to support the lower extremity unaided by muscles or ligaments, but even to carry an additional burden equal to a third part of the weight of the leg.—*Med. Times and Gazette*, May 15, 1875.

Anomalies of the Infraorbital Canal and Nerve.

The *Annali Universali di Medicina e Chirurgia*, for April, contains an abstract of a memoir by Professor LUIGI CALORI on the anomalies of the infraorbital canal and nerve, published at Bologna in 1874. The author confirms the observations of Wenzel Gruber, and adds some original remarks. The following are the anomalies observed in the infraorbital canal.

1. The conversion of the canal into a hollow cylinder or tube running within the antrum of Highmore as far as the middle of the orbital plane, where it ends in the infraorbital groove. The tube has on its inner side an accessory cavity of the antrum, a sort of diverticulum. This formation was met with in a fifth of the cases examined, and is analogous to the tubular infraorbital canal of the horse and other mammalia.

2. The existence of several infraorbital foramina or canals, arising either from subdivision of the ordinary canal by a septum, or from the presence of several granules opening on the face by distinct orifices, more or less distinct

from the principal foramen (supernumerary canals of Gruber). But there are also other infraorbital canals having no connection with the ordinary canal, and on the face or on the base of the orbit, or on the posterior surface of the superior maxilla; to these Gruber has given the name of anomalous infraorbital canals.

3. The infraorbital canal may be double. It is in very rare instances divided by a septum through its whole length; while in other cases the canal is bifurcated at a variable distance from its anterior extremity. Of the two trunks or canals, the outer one is always the continuation of the ordinary canal, and the inner one is supernumerary. This double arrangement has been long known, and has received the name of bifid infraorbital canal. The supernumerary canal always opens on the face on the inner side of the ordinary infraorbital foramen; the aperture may be on the same level as the ordinary foramen, but more frequently it is a little higher or lower, and is placed at a distance varying from one-fifth to half an inch, according to Calori's observation.

4. With regard to the frequency of the anomalies, Gruber found the infraorbital canal bifid in 116 out of 1000 skulls, and Calori in 100 out of 1000.

With regard to the infraorbital nerve, Dr. Calori says that he has, in three cases, while examining the second branch of the fifth pair, found passing out of a special canal, situated to the inner side of the ordinary infraorbital foramen at a distance of about one-third of an inch, a nervous twig of middle size which was distributed to the lower eyelid and the skin of the nose. The anomalous twig arose from the inner side of the trunk of the infraorbital nerve, at a distance of a quarter to a third of an inch from the projecting lower margin of the orbit, and either close to or a little behind the origin of the superior anterior alveolar nerve. In one case Dr. Calori observed two twigs escaping from two foramina, one above and the other below, lying to the inner side of the ordinary infraorbital foramen; the upper one was at two-fifths of an inch distant, the lower one-third. In this case also the twigs arose from the trunk of the infraorbital nerve, from one-fifth to a quarter of an inch from the margin of the orbit; the orifice was single, and the twig entered a canal which was supernumerary to the ordinary canal, and which bifurcated before reaching the face. The upper twig was distributed to the lower eyelid and the nose, the lower one to the nose alone.

In concluding his memoir, Dr. Calori comments on the practical utility of such anatomical researches in indicating the course which should guide the surgeon in dividing the infraorbital nerve.—*London Med. Record*, June 2, 1875.

Case of Twin Monstrosity.

A female twin monstrosity was exhibited by Professor von Buhl, of Munich, at his pathological-anatomical demonstration on February 6, 1875 (*Ärztliches Intelligenzblatt*, No. 9, 1875). It had two heads and two bodies. There was union of the parts from the sternum to the umbilicus; the two breast-bones were fused into one, to which the ribs on both sides were attached. There was an umbilical hernia about 2.35 inches in circumference; hence proceeded one umbilical cord, to one placenta, which contained two arteries and two veins, which divided immediately on entry into the fœtus. Each had an œsophagus and a stomach, which were fused into one duodenum, from which proceeded one jejunum, which in the region of the ileum formed itself into a wide sac, probably corresponding to the entry to the ductus omphalo-entericus; from this sac proceeded two ilea and colons, one for each individual. Meconium was also found in one. The two livers were fused together posteriorly. The most important abnormality was the heart. It was evidently two moulded into one. It contained two ventricles, each of which had taken on the functions of a left and a right ventricle; with one auricle, corresponding originally to four auricles. By means of small valvular arrangements it was divided into two, which directed the blood into the corresponding ventricles. There was no septum ventriculorum; from each ventricle there arose one aorta and pulmonary artery. A small ductus Botalli was present on only one side. All the other organs were double.—*London Med. Record*, June 2, 1875.

Materia Medica and Therapeutics.

The Action of Ammonia on the Animal Organism.

LANGE writes on this subject, in a paper published in the *Archiv für Experimentelle Pathol. und Pharmac.*, 1874. He has endeavoured to determine whether, after the administration of ammoniacal salts, ammonia is eliminated in the gaseous state by the lungs, what relation exists between the blood and ammonia, and how ammonia is eliminated by other ways. He has also made experiments in order to ascertain whether the remote and general action of the different salts of ammonia has characters in common. To determine the question of elimination by the lungs, he made animals breathe through an apparatus containing sulphuric acid, which was afterwards tested with soda and Nessler's reagent. He could not on any occasion find ammonia in the expired air. A peculiar relation appears to exist between blood and ammonia. The author's experiments show that the blood of healthy animals, tested for free ammonia by Strauch and Kühne's method, gives off ammonia at a temperature of 60 to 65 Cent. (140 to 149 Fahr.); and that living and dead blood behave differently towards carbonate of ammonia. When carbonate of ammonia was added to blood taken from the dead body of an animal, ammonia was given off at a temperature of 40 to 45 Cent. (104 to 113 Fahr.); but when blood which was taken from a living animal was treated in the same way, a temperature of 80 to 90 Cent. (176 to 194 Fahr.) was required for the extrication of ammonia. The endeavours to arrive at sufficient data regarding the destiny of ammonia in the blood were frustrated by extraordinary difficulties. On this point, Lange expects light to be thrown by Schultzen's researches on the synthesis of urea in the blood. With regard to the physiological action of ammoniacal salts, Lange arrives at the conclusion that they have a common character, differing one from another only in intensity. He regards chloride of ammonium as the most poisonous salt. The symptoms produced in the nervous system consist in more or less violent paroxysms of convulsions, affecting all the voluntary muscles, and, when the dose is very large, producing death. The respiration is much affected. Immediately after the injection of ammonia into the veins, the breathing is arrested for some seconds; then, after moderate doses, there is an enormous acceleration of the respiration. With larger doses, the acceleration is preceded by a marked retardation. No reduction in frequency nor dyspnoea is produced by division of the vagus after acceleration of the breathing has set in. The blood-pressure at first falls, but then suddenly rises; and then gradually sinks again, until in a time, varying from one to five minutes, it is reduced below the normal. Division of the cervical spinal cord produces no change in the phenomena. The frequency of the pulse follows the changes in the blood-pressure; it increases with it up to a certain limit. Increase of the dose of ammonia beyond a certain quantity produces a rather rapid fall of the blood-pressure, and arrest of the heart's action. Lange gives the following explanation of these phenomena. The salts of ammonia produce convulsions, having their origin in the spinal cord; the respiratory centres in the medulla oblongata become abnormally irritated, and transmit an excess of irritation to the ends of the vagi in the lungs (producing the brief arrest of respiration). The increase in the blood-pressure has nothing to do with implication of the vaso-motor centre in the medulla; it is independent of the convulsions.—*Brit. Med. Journ.*, April 10, 1875.

Therapeutic Action of the Oleum Aleuritis Trilobæ.

Dr. CALIXTO OXAMENDI gives the therapeutic history of a new agent which may be considered as a good substitute for castor oil (*Anales de Medicina de la Habana*, 1874).

The "*Aleuritis triloba*" is a large tree of the euphorbiaceous family which grows principally in India and in all the intertropical countries. It is com-

monly designated in India under the name of "Candle-nut tree" or "Candle-berry."

The oil produced from the nuts of this tree is used for different industrial purposes. The natives of Ceylon call it "Kekane oil" and it is known in England under the names of "Nut oil" or "Artist's oil."

Very little has been said about the therapeutic properties of this plant; nothing can be found on the subject in the works treating of materia medica. A little notice is, however, given in *Griffith's Medical Botany*. This author says: "The nuts of the *aleuritis triloba* are considered as aphrodisiac when used in small quantity and in a dry state; they have laxative properties when taken in larger quantity and in a fresh state." In one of his *Annales de Thérapeutique*, M. Bouchardat says that the oil of *aleuritis triloba* has purgative properties in a dose of thirty grammes. Ranato de Grosourdy expresses the same opinion in his work on medical botany, but he thinks the oil must be used in a dose of two ounces (sixty grammes) in order to move the bowels.

Following the indications of Bouchardat and Grosourdy, Dr. Oximendi has employed the oil of *aleuritis triloba*, and his results are not quite conformable with those arrived at by his predecessors. Having once given this medicine to a healthy negro woman, he obtained an effect much stronger than he expected. By subsequent experiments, he arrived at the conclusion that this oil must be employed in much smaller doses, and that half an ounce is quite sufficient to move the bowels of an adult.

The oil of *aleuritis* may be used with advantage as a substitute for other aperients. It greatly resembles castor oil in its effects on the bowels, and it is by no means disagreeable: it has a pleasant taste of hazel-nuts. It acts quickly (about three hours after its administration) and very gently, without giving pain and griping.

What is the physiological action of this aperient? Dr. Oxamendi thinks the laxative effects are not only due to the disturbance produced in the bowels by the oil itself, but also to a special resin which irritates the intestinal mucous membrane.

The walnuts of the *aleuritis triloba* are so oleaginous that they yield nearly half their weight of oil. This valuable agent may be also used in emulsion. The dose of the oil is two drachms for a child or half an ounce for an adult. The following mixture is recommended by Dr. Oxamendi:—

R.—Olei nucis <i>aleuritis trilobæ</i>	. . . . .	℥ss
Gummi arabici	. . . . .	℥ij
Aq. communis	. . . . .	℥ij
Sacchari albi	. . . . .	℥ss

M.

Good results have been obtained by making frictions of the following liniment over the abdomen in cases of rebellious constipation or abdominal pains:—

R.—Olei nucis <i>aleuritis trilobæ</i>	. . . . .	℥ss
Tinct. cantharid., }		
Ammon. carbon., āā }	. . . . .	℥ij
M. Linimentum.		

London Med. Record, June 16, 1875.

Thymol an Antiseptic and Antifermentative Substance.

At the suggestion of Prof. Liebreich, LEWIN (*Centralblatt f. d. Med. Wissenschaft.*, May 1, 1875) has investigated the properties of thymol, and has published a part of the results at which he arrived. He states that this substance, the formula of which is $C_{10}H_{14}C_2$, is a benzol obtained by distillation from the oil of thyme, and consists of highly aromatic white crystals soluble in 1000 parts of hot water. A solution even as weak as this exhibits all its peculiar properties. He found that saccharine fermentation was wholly prevented by a $\frac{1}{5}$ per cent. solution of thymol, while solutions of carbolic and salicylic acid four times as strong were not nearly so efficacious. The thymol solution also

at once arrested a fermentation which had already begun. The quantitative determination of the loss of weight by the process of fermentation gave even more striking results. He found that milk treated with the thymol solution did not coagulate till twenty days later than when mixed with the same quantity of simple water, while it remains perfectly sweet and free from mould at the end of five weeks. The same was the case with white of egg after eleven weeks. Putrid pus, when mixed with the thymol solution, lost its fetid smell, and remained in this condition until it dried up. Urine similarly treated did not on an average show signs of decomposition till the end of five weeks. He declares, moreover, that thymol is capable of arresting or preventing the action of putrid pus upon the animal system, and is decidedly deodorizing. The high price of the article he regards as of minor importance, because it may be used in such dilute solutions. When taken into the mouth a $\frac{1}{10}$ per cent. solution caused a slightly burning and astringent sensation. When taken into the stomach it appeared to prevent fermentative changes, but not to interfere with digestion.—*Medical Record*, June 19, 1875.

Impermeable Caoutchouc Dressings.

Dr. BESNIER, of St. Louis Hospital, publishes a good account of this method of treatment in the *Bulletin Général de Thérapeutique* (Jan. 30, 1875). The application was devised by M. Colson, of Beauvais, and had been used by him with great success for several years before he published his paper "De l'Emploi de la Toile de Caoutchouc vulcanisé dans les Maladies dartreuses" (*Gazette des Hôpitaux de Paris*, Feb. 25, 1869). After he had recommended it to Prof. Hardy in 1866, the latter distinguished dermatologist introduced it into St. Louis, where it is also used by MM. Lailler, Rendu, and Besnier, with great success.¹ The last of these physicians bases his present report on two years' continuous observation.

The material used is not of great importance. It must be completely watertight, and thick enough to maintain an equable temperature. Vulcanized India-rubber cloth fulfils these indications best, but wax-cloth, gold-beater's skin, or gutta-percha sheeting may all be used. [The cold-cream paper lately recommended by Dr. Duckworth (*Archives of Dermatology*, U. S., Jan. 1875) acts no doubt in the same way.] It must be laid *directly* upon the affected surface and kept in contact, but without pressing on it, by a suitable bandage, care being taken to prevent the access of air or the exit of secretions. An ordinary roller is a better application for the fingers and feet than India-rubber gloves and shoes, and the same for the limbs, neck, and trunk. Or a sleeve may be made for the arm, a glove for the hand, and confined at the shoulder and elbow, or at the wrist by an India-rubber band or a tape. A cap must be made for the head, with a bandage to keep its edges tight, a bag for the scrotum, and a mask for the face. After taking it off it should be carefully wiped, washed in cold water, and dried, before applying it again; the diseased surface should be cleansed by irrigation and powdered, anointed, or left free to the air, according as its condition may demand. This applies to the majority of cases, where M. Besnier finds it enough to apply the caoutchouc during the night, and let the patient go about his business in the day. In severe cases, like general eczema, it is desirable to keep it applied continuously, changing it night and morning.

Without pretending to decide whether the benefit of this treatment depends on protection from contact with air and other irritants, on uniform temperature, or on the effect of the secretions and the exudations of the skin, the author lays little stress on any chemical effect of the sulphur or caoutchouc, and compares the action of the remedy to that of a poultice (or water-dressing). It is therefore generally applicable to inflammatory affections, and also to those characterized by itching. Like all treatment it sometimes fails; but this is

¹ Professor Hebra, having seen the treatment on a visit to St. Louis in 1867, has practised it in Vienna. See *Archiv für Dermatologie und Syphilis* for 1869.

rare, and only once or twice (in cases of psoriasis) has any harm appeared to result from its use. The only inconvenience is the somewhat unpleasant smell (which soon disappears) and the cold feeling when it is first applied.

The diseases for which M. Besnier particularly recommends this remedy are eczema, impetigo, ecthyma, lichen, and all kinds of prurigo. Since, however, impetigo is generally regarded as a mere variety of eczema; since ecthyma apart from boils and scabies, lichen apart from papular eczema and syphilis, and prurigo apart from pediculi, are exceedingly rare, we may say that practically the use of the India-rubber dressing is applicable to cases of eczema in the wide sense of the term, to less specialized cases of dermatitis, and also to any disease in which pruritus is a chief symptom. On the other hand, it is found to be useless, or possibly even hurtful, in cases of psoriasis, particularly when extensive, of erysipelas of all kinds, of cutaneous syphilis, and of lupus ("scrofulides malignes"). The most striking instances of cure have been observed in eczema rubrum and eczema rimosum, the local eczema of various trades, impetigo of the face and scalp in children, and lichen agrius; it is less fitted for the eczema of varicose legs, though sometimes beneficial in softening indolent varicose ulcers, with the aid of rest, elevation, and time. In some severe cases of pemphigus, though not affecting the disease, it notably relieved the distressing irritation.—*London Med. Record*, June 9, 1875.

Medicine.

On Diabetes.

C. BOCK and F. A. HOFFMANN (Berlin, Oliveri, 1874, 8vo. pp. 70) communicate the results of their experiments on the normal quantity of sugar in blood of rabbits. Well-nourished animals, simply tied down, always showed in their blood taken from the heart or from an artery, from 0.07 to 0.11 per cent. of sugar, which was estimated by Fehling's solution. Only when artificial respiration was kept up by pressure on the abdomen (on the liver) did the quantity rise in the cardiac blood to 0.2 per cent. By an ingenious experiment, the authors show that the sugar found arises from the liver and from the lymph of the intestinal canal. From other experiments, it is very probable that glycosuria depends upon increased activity of the liver. After puncture of the fourth ventricle, the quantity of sugar in the blood rose abnormally high during the first hour (to 0.29 per cent.). If in the second hour, where already sugar was distinctly found in the urine, the liver was excluded, in six out of eight experiments the diminution of sugar was quite apparent; and the increase of sugar after the puncture is not to be ascribed to diminished destruction of sugar in the organism, but to a greater supply in the blood, probably arising from the liver.—*Lond. Med. Record*, June 9, 1875.

Treatment of Diabetes Insipidus by Ergot.

At a late meeting of the College of Physicians of Philadelphia, Dr. J. M. DA COSTA related (*Med. and Surg. Reporter*, June 19, 1875) the following details of this interesting case and of its novel and successful mode of treatment:—

"S. S., Bavarian, was admitted into Pennsylvania Hospital 19th of October, 1874. A small, thin man, about forty three years of age, hollow-eyed, with prominent cheek bones, his complaint of weakness and prostration agreed perfectly with his emaciated appearance. Suffering continually from shortness of breath, from indigestion with acid eructations, a burning sensation in the epigastrium, complete anorexia, and from immoderate thirst; having his rest at night broken by the frequent necessity for micturition; he considered, but too correctly, that his health was lost, and that he was rapidly failing.

"No family history could be obtained, and he positively denied any venereal taint. He had always regarded himself a healthy man until two years ago, when he met with a serious accident. By a fall from the roof of a house he was badly contused, besides sustaining a fracture of his clavicle and some of his ribs, and hurting the back of his head; for nearly a year after this fall he suffered from headache and vertigo.

"The day after admission (October 20th) the urinary examination gave the following result: The urine in colour was very light, almost limpid, slightly acid in reaction, the specific gravity only 1001; it contained neither albumen nor sugar; the quantity in twenty-four hours was 224 fluidounces, corresponding exactly with the amount of water he had drank. He did not improve after admission.

"On November 22d he passed 168 ounces of urine, specific gravity 1004, but the daily amount rapidly increased until it reached 260 ounces on the 25th, of specific gravity 1006, containing 24.407 grammes of urea (376½ grains).

"The valerian which had been prescribed was now stopped, as it had so evidently wholly failed, and ten grains of hydrate of chloral were given four times a day; but, as the dyspnœa seemed to increase, this in turn was abandoned in favour of bromide of potassium, twenty grains thrice daily, on the 1st of December, at which date he passed 193 ounces of urine, containing, as Dr. Longstreth informs us, 25.124 grammes of urea (387 grains) and 5.813 grammes of chlorine.

"During the first days of December the face and ankles became œdematous, the subcutaneous veins of the leg were enlarged, and dark red lines were visible on the lower extremities, which also pitted readily on pressure. He complained still of a great deal of headache and feeling of tenseness of the skin on the forehead, and furuncles became manifest on the face. His condition was thus little, if at all, changed for the better. I now determined to give him ergot, a plan of treatment which, in conversation with my colleague, Dr. Hutchinson, I found had suggested itself also to him. At first it was resorted to hypodermically, but this caused so much local disturbance that the remedy had to be administered by the mouth. The internal use was begun on the 7th of December, one drachm of the fluid extract being given three times daily; this was increased, December 18th, to two drachms thrice daily. The diet was the same as before; the cod-liver oil was continued for a time, but not with great regularity, and it was presently wholly stopped.

"From the time that the treatment by ergot was instituted, there was steady diminution in the daily amount of the urine, and rapid improvement in the patient's health; indeed, this was without a drawback, with the exception of a slight attack of pleurisy followed by some congestion at the base of the lung, and lasting only a few days. The patient was practically well on the 25th of January, 1875, when the ergot was discontinued, but he was retained under observation until March 10th, in order to decide whether the improvement was a permanent one.

"The steady decrease in the amount of urine from the use of ergot may be seen from the following: The remedy was fairly begun on the 7th of December; the amount of urine passed in twenty-four hours had been, on December 4th, 227 ounces, which was the last measurement made before the ergot was commenced. On December 9th, it was 152; on the 14th, 126; and on the 23d, 91 ounces. From this time onward the highest amount passed was 76 ounces on December 27th, and from the first of the year to the date of discharge, the maximum was 74 ounces, and had been several times as low as 40 ounces a day. It is proper to state that during his stay in the hospital the urine was repeatedly tested for albumen and sugar, but with uniformly negative results.

"When discharged he was well and strong, and he had never been in better health. During his stay with us he gained in weight forty pounds; and it was difficult to recognize in the fat, bright-eyed, jovial man who left the hospital, the lean, languid-looking, dejected patient who had come to it but a few months before, apparently to die.

"He was seen last week (April 3, 1875), and reports his improvement as permanent."

Dr. Da Costa continued, with the following remarks:—

“Diabetes insipidus is, when well-marked, for the most part a fatal disorder, though the patient may be kept in fair health for years.

“That the recovery in this case was due to the action of the ergot there can be no doubt. That the remedy will be available when grave organic lesions exist I do not think, but I indulge in the hope that, freely given, it will prove of service in cases which without it are incurable.”

On Melanæmia.

The Vienna *Medicinisch-Chirurgisches Centralblatt* for May 14, 1875, gives an account of three cases of pigmentation of the skin after intermittent fever, occurring in the practice of Dr. W. KORNÜLLER, of Karfreit. He remarks that such cases rarely occur in the Austrian Empire, even in the most malarious districts. The effects of malaria, or the results of exposure to marsh miasms, vary greatly with the particular district in which they occur, with the time of year, and the constitutions and hygienic conditions of the patients. Particular epidemics also have their own special characteristics. In one epidemic the majority of cases are slight, easily curable, and of simple type. In another, most of the cases are of a severe kind, and always induce constitutional cachexia. In some epidemics we meet with an unusual number of malignant cases of malarial fever. Imperfect as is our knowledge of the etiology of these diseases, there is much that admits of rational explanation. For example, the malarial fever-district of Isonzothal, surrounded by a gigantic Alpine wall of mountains, is never properly ventilated; whilst the adjacent vast malarious region of the north coast of the Adriatic is thoroughly swept, so to speak, by storms from the southeast and northeast. There Italian colleagues say that pernicious forms are rare, but the malignancy of the malaria in the author's district is shown by three cases of melanæmia occurring in the spring of 1869 in his own practice.

Case I. A previously robust and healthy young married woman, of the peasant class, came to him in June, 1869, to beg some ointment for the purpose of removing the horrible smutty and swarthy coloration of her skin. Having previously known her, he was greatly surprised at the change. It was the first case of melanæmia he had seen. Her skin was of a dark slaty-gray, and on this ground-colour were numerous, thickly strewn, large and small spots and stripes of varying form, of brownish-black pigment; these were most abundant in the natural flexures of the skin, rendering it almost totally black in these situations, most conspicuously so at the wrists and ankles. The mucous membranes were of a light ash-gray; both liver and spleen were enormously enlarged, but the urine was free from albumen. The patient had suffered six weeks previously from a very severe intermittent fever of quotidian type. After three weeks use of domestic remedies the paroxysms ceased, but she still had occasional shiverings, great weakness, and pallor. Fourteen days before Dr. Kornüller saw her, she first noticed the pigmentation, which grew worse day by day. She was now extremely weak, unable to stand, much emaciated, feverish, and without appetite; pulse 90. From noon to 10 P. M. her temperature rose from 99.4° to 102° F.

Dissatisfied at not getting promise of immediate restoration to health, she once more resorted to quackery. After four weeks of this, she again sought qualified advice. The pigmentation and cachexia were intensified. Six weeks of iron, quinia, and liberal diet stopped all the febrile processes; her strength returned; there was no further destruction of blood-disks; and she once more enjoyed life, and did her work; sensibly renouncing her hopes of recovering the former brilliancy of her complexion.

The second case was in a yeoman, aged forty, from Pelfery, over the Italian border, and occurred in the same month. His skin was of the same dark colour, and he had enormous spleen and liver, after a short attack of severe intermittent of quotidian type. His urine was free from albumen. Iron, quinia, and good diet restored him to health and strength, but the colour remained unaffected.

The third case, a lad of a village on the Austro-Italian frontier, sickened at the beginning of May with a pernicious fever, which seems, from the imperfect history, to have been of remittent type. Four weeks afterwards, cachexia set in, with œdema of joints. After some time he became weaker and weaker, his legs began to swell, and the skin to become pigmented. Day by day he grew darker. His liver and spleen were enormously enlarged; he had slight catarrhal bronchitis, and his urine contained much albumen. Iron, quinia, and good diet restored him to health, but his skin remained dark as before.

Dr. Kornmüller believes that iron is a specific for malarial anæmia, as quinia, in large doses, is for the malarious poison; but he thinks we are powerless to restore the skin to its pristine colour; for although we know the cause to be the breaking up, in large quantities, of red blood-disks, and the deposition of their hæmatin as pigment, we know no means which will produce absorption of this pigment.—*London Med. Record*, June 9, 1875.

Cholera treated with Subcutaneous Injection of Morphia.

Dr. F. MILFORD relates the following two cases in the *New South Wales Medical Gazette* for March.

Case 1. About 3 A. M. on the morning of November 23, 1874, I was called to Paddington, to see a lady whom I had been in the habit of attending for several years before. She had gone to bed about eleven o'clock, after partaking of a light supper, and about twelve o'clock complained of pain in the stomach. This symptom was soon followed by severe vomiting and purging. When I arrived, severe pain in the stomach, rice-water stools, coldness of the extremities, and periodic attacks of vomiting coming on at intervals of about ten minutes, were the most conspicuous symptoms. Upon ascertaining the exact nature of the case, I gave about half a drachm of laudanum and a table-spoonful of brandy mixed with half a wineglassful of water to my patient, who, immediately after swallowing it, rejected it by vomiting. I then gave, through the subcutaneous syringe, thirty minims of a solution of morphia, which contained one grain of the muriate. The effect was immediate; the diarrhœa and vomiting directly ceased, and the patient, in about half an hour's time, fell off into a quiet and gentle slumber. 11 A. M. I saw her again, when I found that she had slept during the interval between this and my previous visit. There being still a slight inclination to vomiting and purging, I gave her one-third of a grain of muriate of morphia in aqueous solution subcutaneously. 8 P. M. On seeing her again at this time she stated that she felt quite well; that the purging and vomiting had quite ceased; that the epigastric pain had left her; but that she felt slightly hot and uncomfortable. From this time forth she progressed favourably, and although somewhat feverish, the utmost precautions having been taken by good nursing and diet, she rapidly recovered, and was, in the space of a fortnight, able to take a drive into town.

Case 2. On Saturday, January 23, 1875, I was called, at 6 A. M., to see Mr. H., aged twenty-four. I found him in a cold sweat, pulse scarcely perceptible at the extremities, complaining of pain in the epigastrium, and constantly vomiting. He also stated that liquid motions were frequently running away from him. He was evidently in the collapsing stage of cholera. I returned home, obtained my subcutaneous injection syringe, and injected one grain of morphia in aqueous solution under the skin over the epigastrium. This was followed by most beneficial results; the diarrhœa ceased at once; the vomiting also became less; and in about half an hour afterwards, heat having returned in the extremities, the patient fell off into a quiet doze which lasted about two hours. About 1 P. M. I found the extremities warm, the pulse 100, skin dry and hot; vomiting continuing, but not so incessant; diarrhœa entirely ceased. I administered one-third of a grain of morphia again subcutaneously.

January 24. I saw him again twice to-day, and directed that a mixture containing nitrate of bismuth and morphia, should be given every four hours, as the vomiting still continued; light and nutritious diet, mutton broth, milk, arrowroot, etc.

27th. He was much better to-day; the vomiting and purging had both ceased; the temperature was 98°. He had a gentle perspiration all over the skin; tongue clean; pulse 68°.

The administration of medicines either by the mouth or *per rectum* was entirely prevented by the nature of the complaint, and I was compelled to fall back upon the hypodermic injection of morphia; and now so satisfied am I with its use (having lost some cases of cholera in Sydney before where it was not used) that I shall exhibit it *ceteris paribus* in every case threatening life for the future, unless I see some good cause why the remedy given in this form should be discontinued.—*London Med. Record*, June 9, 1875.

The Sensibility of the Skin in Acute Rheumatism.

The observation of a large number of cases of acute articular rheumatism, in Professor Botkin's Clinic at St. Petersburg, has led Dr. V. Drosdoff to make some extremely interesting experiments on the sensibility of the skin over the affected parts to pressure, temperature, and pain, under the influence of the induced galvanic current. The paper describing his method will be found in *Centralblatt*, No. 17, for April 3, and we shall here confine ourselves to a summary of his main results. In the first place, he finds that the sensation of pain which usually follows electrization with the induced current is either remarkably diminished or else completely abrogated, so that the patient may not even be conscious of any pain when the strength of the current is so great as to give numerous sparks on opening and closing the circuit. On the other hand, the slightest pressure on the inflamed joints causes, as is well known, most severe agony, and in the majority of the cases there seems to be an inverse relation between the sensibility to pressure and the sensibility to the induced current.

The area of what we may call diminished electro-cutaneous sensibility has a narrow limit, so that it corresponds accurately with the inflamed portions of skin, and thus the diminished sensibility to the induced current passes suddenly into normal sensibility as soon as the electrode has passed the boundary of the inflammation. The diminution of electro-cutaneous sensibility sometimes appears two days or earlier before the articular pain, and it sometimes also lasts longer than the latter.

There is generally a relapse in any particular joint if the rheumatic symptoms have subsided before the electro-cutaneous sensibility has regained its normal intensity. The sensation of absolute pressure appears to be diminished simultaneously with the electro-cutaneous sensibility, so that sometimes the patients cannot even feel a weight of twenty or thirty grammes on the inflamed spots. The sensation of temperature is somewhat increased, so that a difference of 0.2° to 0.5° Cent. can be distinguished. The tractile sensibility is also markedly increased in some cases, while in others it is perverted, so that the patients imagine that there are two points pressed on the skin when only one is being applied, or *vice versa*.

The temperature of the affected joints is always 2° to 3° Cent. higher than that of the healthy ones, but faradization for five or ten minutes reduces it to, or even below, the normal level. At the same time, the rheumatic pains caused by movement or pressure on the joint are also diminished, sometimes to such a degree that movements previously impossible can be executed with tolerable comfort.

This effect of faradization on the temperature and the pains lasts for from three to five hours, and then the joints become as hot and painful as before; but the duration of each paroxysm of pain, as well as its intensity, is thus considerably diminished. In conclusion, Dr. Drosdoff believes that daily faradization for five or ten minutes will be found a valuable adjuvant to existing modes of treatment in acute rheumatism. It may even be used successfully, as he has proved, as the sole therapeutic agent. Relapses are not prevented, but each one is shorter and less serious than the last.—*Med. Times and Gazette* June 5, 1875.

Gout in some of its Surgical Relations.

In a course of four clinical lectures published (in abstract) in the *British Medical Journal* for May 15, 22, 29, and June 5, SIR JAMES PAGET, after observing that gout is rather found in its typical forms in private than consulting practice, stated that in the latter it has been more carefully studied. There is a large number of comparatively trivial diseases, which belong to the gouty constitution, and which commonly pass under the name of incomplete, anomalous, or suppressed gout. Also gout affects the consequences of injuries and diseases other than itself. It is very rare for the offspring of well-marked gouty parentage to pass the middle or elder periods of life without manifesting some degree of the gouty constitution. Gout, too, is greatly modified when it is mingled with other constitutions—with the scrofulous, the tuberculous, the cancerous, or any other. One of the commonest methods of developing manifestations of the presence of gouty tendencies is an injury. A person with a gouty constitution has a fall or other injury, and in a few days there comes a fit of gout. In such cases there has been a condition so justly balanced that, so long as the right nutrition of the several textures is not interfered with, they hold their usual course, but that when anything occurs to interrupt the process of nutrition, which makes the various textures feebler, or which tends to bring out any degeneracy, then comes out the special form of disease; for what happens with the gouty occurs also with most other constitutional conditions. As a blow on the breast elicits cancer, so an injury of any kind may bring out gout. If a person with gout about him strike his foot, the gout will appear there; if he wrench his wrist, the attack will come in his wrist. Still more is this likely to occur in rheumatic gout than pure gout. Blows to the hip-joint in such persons are very liable to produce gouty arthritis of that joint. Arnica used externally is apt to produce an erysipelatous condition of the skin in the gouty. Gout, too, modifies many common inflammatory processes, as, for instance, gouty bronchitis, gouty periostitis; and it is of importance to be able to recognize the gouty characteristics in such inflammations. Such gouty tendencies have a tendency to paroxysmal manifestations. The remote consequences of gout after injuries deserve to be carefully noticed. Such persons as are gouty recover more slowly and less perfectly from injuries than others; and in cases where injured parts remain painful, or there is abiding stiffness, gout should be suspected, especially in persons of advanced life.

Gout is sometimes mingled with scrofula. Such is the case in children one of whose parents was markedly gouty, the other markedly scrofulous; and in such patients inflammation which commences as gout may drift into true scrofulous inflammation. Such cases are very important, and the altering features of the case should be carefully noted and the treatment modified accordingly. Instead of passive movement and shampooing, splints and rest become indicated. Even older persons than children may present such changes. A case occurred lately, in which a person who had long been gouty, and whose tissues were degenerate, was at length attacked with scrofula which he had escaped in early life. Blended gout and scrofula form a very bad inheritance. Gout, too, exercises an influence upon gonorrhœa and the progress of syphilis. Gouty persons with gonorrhœa are liable to attacks of inflammation in the joints or the sclerotic. Gout mingles, too, with syphilis, especially in its secondary and tertiary manifestations.

Syphilis in a person with blended scrofula and gout will produce a very different series of events from those which the same poison will produce in a perfectly healthy person. Such modifications have been too little studied in connection with syphilis. It might, for instance, be doubted whether syphilis ever produced destructive ulceration of the nose, except in those who were either tuberculous or scrofulous. Again, that form of chronic synovitis that was associated with tertiary syphilis was generally seen only in the gouty. Mercury must be cautiously administered in cases of mixed syphilis and scrofula. For syphilis mixed with gout, iodide of potassium with alkaline waters form the best line of treatment. Cancer in the gouty is unusually painful, and potash often relieves the pains very effectually.

The minor signs of gout in the hands and feet were next considered. It will not do to build a diagnosis of gout upon any one of these minor ailments alone; the diagnosis must rest upon a number of the smaller features of the case carefully collected and fitted together. If many be found together, or in quick sequence, the diagnosis is almost as certain as if well-marked gouty inflammation of the great toe were found. A very large proportion of the first attacks of complete gout occur in the toe or foot. Less complete forms are common, as darting pains in the toes or knuckles after errors in diet. Still more suggestive is it if the pains be in the heel or tendo Achillis. In the examination of elderly persons, it is quite as necessary to examine their knuckles as their tongue. Gouty hands often look as if they were shortened, especially in the fingers. There are the true globular, rounded, and hot gouty joints, and also the flattened form of more chronic changes. The palmar fascia is very apt to become affected. A number of old people are seen with their fingers drawn down to the palm, and especially their little finger. If they live long enough, all the fingers may become so affected, the index finger being least so. Any man who is in the habit of grasping tools tightly is liable to such change in the palmar fascia. Men engaged in lock and key making, wire drawing, etc., are very subject to this condition. Gardeners, and persons who use walking sticks much, and more so if the sticks be badly shaped, are similarly affected. Such thickenings must not be confounded with the scars of old abscesses or injuries. In gouty cases, the integuments adhere firmly to the palmar fascia. Similar affections may occur in the foot, and often are very troublesome, requiring the boots to be frequently changed.

For the treatment of affections of the fingers and toes, gentle compression, aided by wet linen and oiled silk, is good, and may be continued for the relief of the resultant thickening in the form of a firm bandage. In contraction of the palmar fascia, stretching the hand out on the table several times a day is good.

When the fingers are drawn down little can be done, and section of the tendons, if giving temporary relief, is apt to produce greater contraction ere long. Operative treatment will generally lead to a worse state of things than existed ere it was resorted to.

Gout is very liable to affect the nervous system, the sensory rather than the motor nerves, however. It produces intense pain oftener than cramp. This is shown in the intense painfulness of an ordinary gouty attack, a painfulness out of all proportion to the other phenomena of the inflammatory attack, and especially disproportionate to the structural changes in the part attacked. Neuralgiæ, as sciatica and brachial neuralgia, are very common in gouty persons. Various shifting neuralgia in a person of or over middle age should always excite a suspicion of gout. Gouty neuralgiæ are more fitful, more quickly and readily affected by indigestion, errors of diet, and other similar influences, than other neuralgiæ. Then there are some morbid sensations of the skin, even more suggestive of gout. Such are (1) burnings in portions of the skin—hot burning patches in the thighs, or other parts, as the palms or soles; these sensations, however, are not limited to any particular localities of the skin. The affected portions of skin look healthy, or only slightly flushed; and though the patient complains much of the pain, as burning or scalding, no organic changes appear to ensue. (2) Numbness or tingling of a limb, or of any portion of one—the feeling as if the part were asleep—are also gouty indications, and they may exist for months or years. Such feelings cause great distress in nervous persons, who are afraid that they foretell paralysis or other serious trouble. Paralysis, of course, may be so preceded; the fears in the majority of cases, however, are groundless. Gout should be carefully looked for if these sensations be of long duration in persons whose nutrition is good, and if there be no change of temperature or wasting.

In the hypochondriacal and the hysterical gout may supply morbid sensations, to which the mental state is only too ready to give colour and intensity. The pain itself is real, but these patients aggravate it by errors both of observation and judgment; of observation, because they study it with a morbidly close attention; of judgment, because they assign wrong causes for its presence.

Probably there is no special connection betwixt gout and hypochondriasis, but they mutually aggravate each other and cause much misery which it is often difficult to cure, or, indeed, even to relieve.

Cramps and sudden "catches" in overaction are also found in connection with gout; and in some persons they are, at certain times, almost sure to follow any sustained or awkward movement.

The relations of gout to the urinary organs may be traced in its relations to the lithic acid diathesis. Among elderly persons, a large proportion of cases of lithic acid calculi, and lithic acid gravel, are in those who bear marks of gout, a fact which justifies the assumption that gouty attacks are intimately connected with, if not possibly due to, an imperfect elimination of lithic acid by the kidneys. The appearance of lithic acid or of lithates in the urine is suggestive of gout. Acute inflammation of the mucous membrane of the bladder, with pain and distress, chiefly before micturition, extending to the perineum, rectum, and suprapubic region, and with burning sensations in the urethra, is associated with gout. With these general signs there are more special ones, as the nocturnal occurrence, or dyspepsia, the suddenness of the attack, its sudden subsidence, its relapse, or its metastatic character. Gouty orchitis is not uncommon, and is frequently followed by the presence of fluid in the cavity of the tunica vaginalis. It is prone to relapse; it passes from one testis to the other, and also comes on suddenly. Gout affects the course of urethritis; and in gleet in the gouty, relapses are apt to follow errors in diet or in drinking. True gouty urethritis is found where there has been no infection, and is itself free from infectiousness. Prostatic disease or enlargement is very frequent in the gouty; so, also, are alterations in the penis. There are fibrous thickening and hardening of the corpus cavernosum, and the changes are similar to those of the palmar fascia described above. The affection is chronic, but harmless. Painful and persistent erections at night are also found most commonly in the gouty, especially in the incomplete forms and with excess in the lithates. Bromide of potassium or ammonium is here very useful.

Gout, too, affects the skin, in the form of psoriasis, eczema, urticaria, prurigo, pruritus, etc. The relation is not to be found in any anatomical features, or in any peculiarity of appearance. In such cases the patient's constitution is more important than the anatomical characters of the local disease. For example, if eczema be found in a patient who has had regular gout, there must be a strong suspicion that the eruption depends upon gout, and the case must be treated in this view. Such treatment is as much called for here as in the case of inflammation of a joint in one known to be gouty. The sudden appearance, especially at night, the connection with indigestion or unusual diet, point to the origin. The old rule that such patients should have nothing salt, strong, sweet, or sour, is a good one. The classification of skin-diseases, grown so minute of late, founded mainly on an anatomical basis, leaves out too much the constitutional conditions with which the disease is associated, which is of paramount importance. Ulcers, too, are common in the gouty, especially the eczematous ulcer about the ankle. This is an eczema of which some portion is the seat of thin shallow ulceration. There is much severe pain, especially on lying down and in bed. In the warmth and quietude of bed the pain becomes agonizing. Such ulcers are commonly associated with varicose veins; not the large tortuous veins, but small clusters of veins, often of bright hue, collected round the ankle or some portion of the leg. Some think the varicose veins the cause of the ulcer, but this view is a fallacy. Incomplete gout is the cause, and the presence of varicose veins is only a coincidence.

Gouty affections of the digestive organs were next referred to. Many persons can foretell the oncome of gout by the appearance of the tongue. Psoriasis of the tongue is also a gouty affection. It is difficult to distinguish this affection from syphilitic psoriasis, and the diagnosis rests on the general environment. There is a thin opaque white covering over the mucous membrane, like the layer of mucus left by the snail when tracking its way over wood. Diseases of the palate and pharynx are also among the list of gouty affections; and elongated uvula in elderly persons is very suggestive. The gouty dyspeptic is troubled with acidity and flatulence, is easily disturbed by errors of diet,

and has "bilious" headache. Often the dyspepsia so induced is accompanied by burning in the knuckles, or in the palms and soles, or by some neuralgia in the scalp. The ready disturbance caused by certain articles of diet in those persons forms a capital diagnostic indication. Gout affects the circulation, and surgically is most seen in gouty phlebitis. It is, perhaps, one of the most frequent of the forms of irregular gout.

Gout indeed, Sir James Paget remarked, mixes itself with whatever malady is present in the patient. Of course the treatment of a gouty man is different according as it is blended with scrofula or syphilis, or occurs in the nervous or the healthy. Colchicum often is useful. There are three things that have to be considered for all gouty persons. Firstly, they should drink an extra quantity of water, especially in the early morning, before any food is taken. Secondly, those who have lithic acid or lithates in excess, should take alkaline instead of pure water. Many waters, as Carlsbad and Vichy, are very useful; and those that are purgative as well as alkaline may be employed when the bowels are confined. Often the skin needs good washings with soap, and thorough rubbing as well as mere warm baths. It is a good plan to adopt the German practice of going to bed for awhile after the bath. If English baths were worked with the same care in this respect as is the case abroad, more good would result from them. In conclusion, he said that "what was in his mind was chiefly this: first, the broad general rule, that disease is not to be studied as if it could be learned by morbid anatomy alone; and next that amidst the forms of constitution to be studied in surgery, the gouty is an important one, and that it has not only complete and typical forms but also minor characters, which, if occurring in any number in the same person or in different members of the same family, might be as sure evidence of gout as the most typical inflammation of hand or toe, and that the gouty element is important in the matter of treatment."—*London Med. Record*, June 23, 1875.

The Treatment of Typhoid Fever by Quinine.

The *Genio Medico-quirurgico* for March 15, 1875, contains the records of several cases of typhoid fever successfully treated by sulphate of quinine. In one case the patient was a woman, aged forty, who, one month after her husband's death, presented herself all the symptoms of the same disease. The usual treatment not having given satisfactory results, Dr. CORRAL administered sulphate of quinine in small doses for several days. This was followed by a great improvement in the general symptoms. The pulse was 98°, and the temperature nearly normal. Quinine was again employed, and its use was followed by a relapse which presented all the characters of intermittent fever. The same treatment was employed against the access, and the patient, after having had three new paroxysms of intermittent fever, entered rapidly on convalescence.

M. Corral has often employed quinine in cases of nervous and adynamic forms of typhoid fever. According to his experience, this alkaloid modifies the temperature and febrile state, and gives the disease the intermittent type. —*London Med. Record*, June 9, 1875.

Gangrene of the Lower Extremity after Diphtheria.

In the *Giornale Veneto delle Scienze Mediche* for April, Dr. MORONI relates the case of Luigi Zaramella, a boy, aged seven, who was admitted on December 1, 1874, into the hospital at Monselice with gangrene, which had commenced in the right foot, and extended half way up the leg. His parents were healthy, and he had enjoyed good health till the previous month, when he had an attack of diphtheria, which left paralysis, indicated by a nasal voice and the reflux of fluid into the nares. After a convalescence of some days, his right foot became painful and swollen, and there was a return of fever. The redness, at first erysipelatous, became livid; the end of the toes became mummified; and dry gangrene declared itself, and, as already said, extended half way up the leg. During the first two weeks, the evening temperature was 39.5° Cent.

(103.1° Fahr.); the pulse 120. Physical examination of the chest gave only negative results; the child was very restless in consequence of the acute pain in the limb. He refused food, and did not sleep. The pulsations of the right femoral artery did not differ from those of the left.

Anodyne and aromatic cataplasms were applied to the part; and opium was given internally in quantities gradually increased from a grain and a half to seven and a half grains in twenty-four hours. This treatment had no effect; on the contrary, the mortification extended as far as the upper third of the leg. Dr. Moroni bled the patient from the arm to more than twenty ounces; on the following day—perhaps, he says, by an accidental coincidence—the gangrene did not extend, and two days afterwards there was a distinct line of demarcation. Amputation was performed on December 15, the elastic bandage being used. The wound healed well, and the patient was discharged cured on January 25, having also recovered from his paralysis without any special treatment.

Dr. Moroni observes that the occurrence of spontaneous gangrene of a limb in a robust boy, as a sequel of diphtheria, is a fact of very rare occurrence, and one which at first it is difficult to explain. It is not possible to admit the existence of disease of the arterial coats in so young a boy; and, as he was always healthy before the diphtheria, the occurrence of the gangrene must be ascribed to this and to subsequent embolism. Labadie-Lagrave found in cases of diphtheria indications of vegetative endocarditis, most frequently affecting the mitral, and rarely the sigmoid valves. Bouchart, in 1872, called attention to the occurrence of myocarditis and endocarditis in diphtheria. Mosler, in Germany, about the same time, described degeneration of the myocardium as a rather frequent cause of sudden death in cases of diphtheria, even where recovery was apparently to be expected. These observations, and those of Brigidi of Florence, point to the embolic origin of the gangrene in the case now described.—*London Med. Record*, June 23, 1871.

The Condition of the Spinal Cord in a Case of Talipes Equinus.

In the *Archives de Physiologie* for March and April, M. DEJERINE describes the microscopical appearances found in the spinal cord of a well-marked case of talipes equinus. After staining and clearing the sections in the ordinary manner, the following lesions of the gray matter of the vessels and of the neuroglia were noticed. About the lumbar enlargement, the right side, the same as that on which the deformity existed, the exterior portion of the anterior horn of gray matter was found to take the colour of the carmine more deeply than the rest. The nerve-cells, with the exception of one or two that had lost their processes, and were much atrophied, had disappeared from this portion of the horn. The vessels here, in comparison with those on the left side, were much increased in number, and their walls thickened. In the rest of the horn the structure was normal. These alterations were most marked at the middle of the lumbar enlargement; from that point, both upwards and downwards, they gradually disappeared, the dorsal region not being affected. The posterior horn of the gray matter was normal.

In the same portion of the cord, the white substance had undergone sclerosis of the right antero-lateral column. The lateral column also presented a band of cortical sclerosis about 0.6 millimetre (.024 inch) in thickness. This condition of the white matter occupied the whole of the lumbar region, disappearing, like the lesion of the gray matter, above and below. The nerve-roots springing from this part were found to contain many tubes wanting in myelination; others had their myelium, but were much reduced in volume.

An examination was also made of those muscles which were affected in this case, the anterior muscles of the leg and the peronei. These were found to have undergone simple atrophy of the primitive bundles, the striation being preserved. There was also an increased production of connective tissue.

The points which the observer of this case thinks most important are the existence of the band of cortical sclerosis, and the marked limitation of the lesion in both the gray and the white matter.—*London Med. Record*, June 9, 1875.

The Influence of Amyl-Nitrite in Melancholia.

In the *Archiv für Psychiatrie* (Band v. Heft 2), Dr. SCHRAMM gives his experience of this remedy. After quoting Browne and Brunton, who have experimented with it in this country, he gives his results as follows. A temporary favourable result was, with one exception, seen in all the cases (nine). This occurred at once after the inhalation, and was both subjective to the patient and objective to outsiders. The mental state, at first depressed and painful, became more lively, and the dulness gave way to affability. A few hours after the inhalation the former state, without exception, returned. The favourable effect of the treatment was most apparent after the first or second inhalation, and by repetition became weaker; so that after two or three weeks' experience it quite failed, especially in its influence on the heart's movement and the course of the circulation, though after an interval it acted as at first. In two cases the remedy preserved its sedative power up to the third month, though even here it failed to thoroughly subdue the symptoms. Even here, it should be added that the two patients were accustomed to morphia, from which they had experienced much relief to their depression.

In most of the cases anæmia was present; but this gives no necessary premises for the psychic operation of the drug, for once it failed (even at the first inhalation) in a notably anæmic person, and in two instances it succeeded where plethora and other congestive symptoms were present.

Although it is proved that amyl-nitrite causes dilatation of the brain-vessels, we have yet no means for deciding whether the influence is the consequence of the dilatation of the vessels and the greater flow of blood, or whether there is a direct influence of the blood, changed in composition by the amyl-nitrite, on the nervous apparatus. The last two cases, where plethora showed itself, seem to speak for the latter hypothesis; although even here a still greater widening of the vessels may have occurred and have led to recovery. Anyhow, Meynert's theory of the dependence of melancholia on anæmia of the brain is confuted.

The practical result is, that we can by amyl-nitrite relieve *for a time* the condition of melancholia and its attendant neuro-pathological symptoms. To the cure of melancholia, having regard to the as yet unknown brain-changes causing it, our experience is only of use when the disease is of short duration or has frequent periods of remission.

When the remedy does not quickly act, it is of no special use; and as a palliative, it is, because of the rapidity with which the system becomes accustomed to it, behind other narcotics. Let it be only used in mild cases of simple melancholia; but it is not yet clear that such cases are more easily influenced when associated with an anæmic condition than when with plethora.—*London Med. Record*, June 2, 1875.

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On the Use of Chloral in the Treatment of Whooping Cough.

Dr. GRESLON reports, in *La France Médicale*, for April 3, a case in which the patient, a child eight years old, having always enjoyed good health, had a violent attack of whooping-cough. Dr. Greslon observed the case for six weeks. The cough, which at the commencement was almost incessant, went on to very frequent paroxysms of the most marked character, accompanied by vomiting, and especially by intense fits of suffocation, which constituted the leading characteristic of the attack.

All the remedies usually employed in such cases, opiates, antispasmodics, etc., having had no results, Dr. Greslon tried chloral in doses of fifteen to thirty grains every night. After the administration of this drug, the patient, who was then in the most violent stage of whooping-cough, having on an average a fit every hour throughout the twenty-four, showed a sensible improvement of the symptoms. In four days' time only five or six attacks occurred during the day, and the nights were calm. The symptoms from that time gradually diminished, until, in about ten days after this treatment had commenced,

the patient had only two or three attacks in the twenty-four hours, and they were also greatly diminished in length and intensity. The patient, who was very much lowered, recovered his cheerfulness and his usual state of health. Fifteen days elapsed between the first administration of chloral and the cessation of the fits of coughing, so that the action of the drug was very rapid.—*London Med. Record*, April 21, 1875.

On the Nature, Varieties, and Etiology of Pulmonary Consumption in the Army.

The following are some of the main conclusions arrived at by Mr. WELCH, Assistant Professor of Pathology at Netley, in his thesis on the "Nature and Varieties of Destructive Lung-Disease included under the term Pulmonary Consumption, as seen among Soldiers, and the Hygienic Conditions under which they occur" (*Alexander Prize Essay*, 1872). All the varieties of military phthisis are divisible into three groups, viz.: 1. Inflammatory and idiopathic, with a sub-group of inflammatory specific; 2. Specific, textural; and 3. Alien, consequential, or ingrafted. By far the larger number of cases, viz. 73.81 per cent. (out of a total of 230 cases), fall under the first head, which includes pneumonic (lobar, lobular, and hemorrhagic) and bronchitic (acute and chronic catarrhal) phthisis. The sub-group of specific inflammatory lesions yields 9.53 per cent., and is confined to pneumonic and bronchitic phthisis of syphilitic origin. The second group, comprising syphilitic gummatous phthisis and tubercular phthisis, was met with in 11.28 per cent., the numbers being equally divided between the two specific textural lesions indicated. The last group—made up of dysenteric, pyæmic, embolic, and diabetic phthisis, with phthisis from local irritation (e. g., grinder's phthisis) gives 5.14 per cent. An exhaustive analysis of each form of phthisis follows, many illustrative cases being given with full detail. The lobar pneumonic form occurred in six per cent. of the cases, the subjects attacked being of all ages and of previous good health. The limitation of the disease to one lung, generally involving the base, and its frequent association with hæmoptysis, which often proved fatal, are considered to be the distinctive characters of this form. Phthisis originating in lobular pneumonia occurred in 26 per cent., and was marked by an insidious origin, the apex being primarily attacked and both lungs usually involved, the disease mostly taking a chronic course. Under "hemorrhagic phthisis" are included 17.28 per cent. of the cases, occurring in subjects free from tubercular or strumous diathesis, and leading directly to pneumonic changes, without the development of miliary tubercle. The hemorrhage is attributed to delicacy in the pulmonary capillaries, chiefly induced by constriction of the chest. The catarrhal or bronchitic variety, characterized by an antecedent bronchitis, was met with in an acute form in 15 per cent., and in a chronic form in 8 per cent. It is stated that in all the cases included within this first group there was no question of tubercular or other diathesis, and almost entire freedom from any predisposing cause, so that they could mostly be held to depend upon the hygienic conditions peculiar to military life. In many of the cases tubercular changes occurred secondarily. The pathology of these cases is fully described, together with an analysis of the associated lesions met with in "inflammatory" phthisis. Intestinal lesions are ascribed to catarrh, although a secondary tubercular change is admitted. Syphilis as a cause of inflammatory phthisis, arising either in pneumonia or in bronchitis, is held to be proved in many cases; and the extreme frequency with which evidences of phthisis are met with in the subjects of syphilis dying from other causes is insisted on in support of this, together with the fact that in most cases the symptoms of the lung-disease followed exposure to syphilitic infection. The truly specific lesion of visceral syphilis, viz., the gumma, was met with in 5.6 per cent. of the cases; the characters of this "gummatous phthisis" being previous inoculation with the syphilitic virus, followed at a late period by pulmonary symptoms, the extreme variability in site of the destructive lesion, with the existence of gummata and chronic inflammatory changes. The histological distinctions between the

syphilitic and tubercular nodule are based chiefly upon the presence of well-defined spindle-cell forms merging into fibrous tissue in the former, contrasted with the small round-cell elements embedded in fibrous matrix in the latter. Purely tubercular phthisis was of rare occurrence, and was always preceded by a term of ill-health. A few pages are devoted to the forms of phthisis included under the third group. The exigencies of military service as a factor in the production of these different forms of phthisis are then fully described; the vitiated atmosphere of barracks being held to be accountable for nearly one-half of the whole number of cases, combined with exposure to climatic variations, and constriction of the chest from accoutrements, etc.; and the essay concludes with an urgent appeal for reform in these directions, much of the pulmonary disease met with in the army being clearly traceable to preventable causes.—*London Med. Record*, May 5, 1875.

Pathogeny of Spontaneous Aneurism.

At a recent meeting of the Niederrheinische Gesellschaft, the proceedings of which are reported in the *Berliner Klinische Wochenschrift*, No. 23, 1875, Professor KÖSTER spoke on the origin of spontaneous aneurism and chronic mesarteritis. Against the generally accepted view that the spontaneous and so-called true aneurism is due to chronic endarteritis and the consequent metamorphoses, several facts may be brought forward. An aneurism may be seated on a perfectly healthy artery. In the second place, the frequency of endarteritis is much greater than that of aneurism. Again, there are no anatomical grounds for supposing that a pouching of any part of an arterial wall necessarily follows disease or degeneration of the inner membrane which, especially in the smaller vessels, is much too thin to withstand the pressure of the blood. Finally, as has been proved by the statistics of Lisfranc and Crisp, the frequency of aneurism diminishes towards the end of the middle period of life, whilst arterial atheroma is met with mostly in old people. Dr. Köster, following Helmstedter in examinations of small protrusions of the walls of the aorta, and extending his researches to small aneurismal pouches of other large arterial trunks, found in the substance of the muscular coat numerous clear patches which he regarded as due to an inflammatory process and to proliferation of connective tissue, and analogous to those met with in hepatic cirrhosis and partial interstitial nephritis. Each patch is prolonged into the adventitia by a small pedicle in which vessels are always to be found, that is to say, each patch is developed around one of the nutritive vessels. The pedicle contains afferent and efferent arterioles, veins, and lymphatics, and moreover at the commencement of the pedicle in the adventitia a cellular connective tissue proliferation is to be found. Thus, according to Professor Köster, the inflammatory process commences around the nutritive vessels in the outer portions of the artery, passes directly into the muscular coat, and there becomes much extended along the branching capillaries. Not unfrequently the inflammatory patches extend through the whole thickness of the muscular coat, always following the course of the small branches of the nutritive vessels, which often extend as far as and occasionally pass into the inner membrane. In the latter case, portions of the inner membrane undergo inflammatory thickening. In consequence of this discrete chronic mesarteritis the muscular coat (elastic fibres and muscle-cells) breaks down, until, finally, but a few small flakes of muscular substance can be seen in the middle coat. The inner coat and the thickened tunica adventitia form one membrane of homogeneous histological structure, which is very vascular. There is no longer any separation of the arterial wall into two coats. These degenerated portions, in which traces of muscular tissue may often still be observed, are protruded, and then aneurism is produced. Aneurism arises not through endarteritis, but through mesarteritis. The distinctions of aneurisma verum, and aneurisma verum externum et internum, and the like, will not, Professor Köster states, hold good, since after the protrusion of a pouch it is impossible to make out what share in the formation of the wall of such pouch is taken by the inner or the outer coat, and since the muscular coat is reduced to mere traces, and is never continuous along the whole wall of the aneurism.—*Lond. Med. Record*, June 23, 1875.

Phlebitis following the Hypodermic Use of Ergot in the Treatment of a Fibroid Tumour of the Uterus.

Dr. E. P. ALLEN, of Geneva, Ill., reports (*Medical Examiner*, July 1, 1875) a case of fibroid tumour of the uterus in which hypodermic injections of ergot twice caused phlebitis of the lower extremity.

Sudden Death from Puncture of a Hydatid Cyst.

At a meeting of the Parisian Société Médicale des Hôpitaux, held on March 26 last (*Union Médicale*), M. MARTINEAU said that a man aged thirty-one was admitted to the Lariboisière on January 22. He had been quite well, according to his own account, till three days before, when he was seized with pain in the right hypochondriac and epigastric regions. Except lead-colic and agonising attacks, beginning in Africa and lasting eight years, there was no history of previous disease. There was no syphilis, nor alcoholism. Hydatid tumours in the epigastric region, and enlarged liver, were diagnosed. On the 24th the tumour was punctured with a capillary trocar. A few grammes of fluid, first clear, then blood-stained, flowed out, and then the canula became choked with a membrane. Echinococcus-hooklets were found on microscopic examination, which only took three or four minutes. The man then suddenly became ill, had severe dyspnoea, nausea, and vomiting; his respiration and the heart's action were suspended, and long strings of glairy whitish mucus came from his mouth, and filled the bronchi and trachea. His face was pale, covered with cold sweat. Artificial respiration, galvanism, and other means failed to restore him, and he died at the end of about twenty minutes. The *post-mortem* examination showed substernal emphysema of the subcutaneous tissues and old pleuritic adhesions. In the apex of the left lung was a nodule of caseous pneumonia. There was some emphysema of the lungs, probably produced by the mode of death. The bronchi were filled and plugged with the strings of mucus referred to. There were signs of old pericarditis, and some old mitral mischief. Two hydatid cysts lay on the lower surface of the liver—one in the right lobe, one in the left; the latter had been punctured. Nothing abnormal was found in the peritoneum. M. Martineau ascribes this death to a reflex paralysis of the pneumogastric nerve. He believes the case to be unique, as regards puncture of the liver, though sudden death is known to follow contusions of the abdomen, and intestinal lesions. In the discussion which followed, M. Gérin-Roze referred to M. Bérenger-Féraud's paper, in the *Bulletin de Thérapeutique*, December 15, 1874, for instances of the harmlessness of capillary punctures; he had known patients walk about the day after. He had punctured one cyst seven times in five months. M. Dumontpallier had seen a frog die suddenly of syncope in M. Claude Bernard's laboratory, when the abdomen was opened, and a portion of intestine was seized, with a view to ligature it. M. J. Simon said that in Iceland, where hydatid cysts were very common, they were not now tapped, but only pricked several times. Many cases have been cured in this way. But it would seem as if even a slight puncture might open the door to death. M. J. Guyot knew of seven or eight deaths within twenty-four hours after tapping hydatid cysts of the liver. He, therefore, had recourse to Vienna paste before tapping. M. Woillez narrated a case in which he had intended to tap what he believed to be a very large hydatid cyst of the liver. It gradually diminished in volume, and at last disappeared without any operative interference. Neither the urine, sputa, nor stools of the patient presented anything unusual. Was this really a hydatid? He had never seen a similar case.—*London Med. Record*, June 23, 1875.

Intestinal Obstruction successfully treated by Gaseous Enemata.

Dr. BERNARDINO TORRES, of Alcazar de San Juan, publishes the following case in the *Siglo Médico* for April 4, 1875.

Francisco Gonzales, aged eighteen, shoemaker, had typhoid fever, and was

subject to frequent attacks of indigestion. On February 19, after much indulgence in a common aliment called *la cuaresma*, he was suddenly seized with a sharp pain over the abdomen, and was unable to work. He went to bed, and the symptoms increased. Paroxysms of abdominal pain were immediately followed by vomiting, which continued for three days and nights without ceasing, and in spite of soothing applications, narcotic enemata, and mixtures. On February 23, the patient was much worse, and vomited some yellow fecal matter; the abdomen was tympanitic and distended, but no tumour was discoverable; the extremities were cold, and the pulse scarcely perceptible. The patient, however, was a little relieved by a tepid bath, and the application of an enema with belladonna. On February 25, the face was sunken and pallid. The bowels were not open in spite of an energetic drastic treatment. A gaseous enema of bicarbonate of soda eight grammes, and tartaric acid four grammes, was prescribed. The general state was slightly improved the following day, and the vomiting decreased, but the bowels were not moved. The same enema was given three times a day during a week. The abdomen was smaller and the pain more supportable, but vomiting of fecal matter still continued. On March 4 the patient was again much worse. Another gaseous enema was prescribed, bicarbonate of soda thirty grammes and tartaric acid fifteen grammes. Its administration was followed by a sudden cry, retching, and exhaustion, after which it was at once expelled, and a large quantity of fecal matter passed. The same enema was again given four hours later, and produced copious fluid stools. On the following day the vomiting and pain had ceased, and the abdomen was much smaller. On the 10th, the patient was quite out of danger. —*London Med. Record*, June 9, 1875.

On Herpes Zoster.

M. Bucquoy (*La France Médicale*, April, 1875) discusses the relation between the eruptions of herpes zoster, or zona, and its accompanying neuralgia; whether they depend upon morbid changes in the nerve or centre from which the part affected is supplied; and whether the cutaneous affection is the cause of the neuralgia, or the neuralgia the primary affection, and the eruption the secondary result. It has been shown by M. Charcot and others that phlegmonous changes or zona have supervened upon lesions of nerve-trunks or their centres; and M. Hybord has collected a number of cases in which *post-mortem* examination proved that the eruption followed some inflammatory lesion of nerves, spinal ganglia, posterior columns of the cord, or the Gasserian ganglion. These facts show that changes in the nervous system have an undoubted influence upon the trophic condition of the part supplied by the affected nerve, and the affection of the eye which accompanies herpes frontalis is consistent with the results known to follow injury or disease of the fifth pair and Gasserian ganglion. The conclusion that every case of zona is necessarily accompanied by injury or inflammation of the nerve which supplies the affected territory is not, however, to be accepted without certain reservations. The connection between the eruption of herpes zoster and nerve-pain may be regarded as satisfactorily established. Yet, having regard to those slight cases of zona, in which the nerve-pain is so trifling and transient an element, M. Bucquoy cannot venture to affirm absolutely either that in simple neuralgia there is actual change in the painful nerve itself, or that the neuralgia which accompanies zona certainly indicates something more than hyperæsthesia, such as active hyperæmia or inflammation of the nerve. —*London Med. Record*, June 9, 1875.

The Cause of some of the Eruptions which have been classed as Hydroa.

Mr. HUTCHINSON stated at a recent meeting of the Clinical Society of London (*British Med. Journ.*, May 29, 1875) that his principal object in bringing this subject before the society was to ask attention to a hitherto unsuspected cause of the eruption. The term hydroa had been given, he remembered, by M. Bazin, about fifteen years ago, to a peculiar bullous or vesicular eruption which,

although not very common, was a disease of considerable importance, from its being liable to be mistaken for smallpox on the one hand, and for certain forms of secondary syphilis on the other. The main features of the disease were stated to consist in the rapid appearance of a symmetrical eruption affecting by preference the face, backs of the hands and forearms, and less frequently the buccal mucous membrane, and fronts of the knees and legs. Its spots, at first erythematous, quickly became bullous or vesicular, tending to spread at their edges and subside at the centre, and rapidly undergoing spontaneous cure. The eruption was usually attended by little or no constitutional disturbance, or occasionally by slight rheumatic symptoms and effusion into one or more joints; finally, in some cases the disease showed a tendency to recur after long intervals. The disease appeared to have no alliance with either pemphigus or herpes, nor was there any difficulty in diagnosing it from these maladies. M. Bazin had not, so far as the author knew, offered any satisfactory suggestion as to the cause of the disease, nor had Mr. Hutchinson been able to assign any cause at the time when he published a series of cases in 1870. (See *British Medical Journal*, 1870, vols. i. and ii.) The occurrence of other cases, however, and a reconsideration of the facts relating to those already referred to, had induced him to believe that in not a few instances, perhaps in the majority, hydroa was caused by iodide of potassium. The fact that the iodide was universally known to cause in many persons a slight eruption of acne or lichen on the face was alluded to, and allusion was made to the severe eruptions which occasionally followed the use of the bromide of potassium. The author was not aware, however, that attention had been called to the iodide as an occasional cause of severer eruptions, such as hydroa. Drawings were handed round, illustrating several cases in which it was quite certain that the hydroa eruption had been caused by this drug, and others in which from circumstances in the patients' history its previous administration was highly probable. It was of special importance to recognize this occasional effect of the iodide, because, from the similarity between hydroa and some syphilides it was otherwise quite possible to diagnose the eruption as syphilitic and treat it by the very drug which had caused it. The author believed that this danger was not an imaginary one, and that the persistent administration of iodide of potassium to patients suffering from iodide hydroa was now and then the cause of very serious ulcerating skin-disease with grave constitutional symptoms. Particulars of one such case occurring in Mr. Hutchinson's practice were narrated, in which a patient presenting skin-ulcerations exactly resembling those of tertiary syphilis continued to become worse and worse while treated with iodide; and who immediately improved and rapidly quite recovered when the drug was omitted. In two cases the eruption was experimentally produced a second time. The author did not consider that iodide of potassium was the cause of all cases of hydroa, believing it probable that there were cases in which other agencies were at work. He suggested with reference to these latter that they might in the future be found to depend on other drugs, or on special articles of diet. Attention was called to the similarity between the author's drawings of *hydroa* and the illustrations of *erythema multiforme* and *herpes iris* given in Professor Hebra's *Atlas of Skin Diseases*, which were also handed round for comparison. He also referred to a good cast of Bazin's hydroa in the museum of the St. Louis Hospital, in Paris, which had been the means of attracting his attention to the subject. He felt no doubt that this cast and M. Bazin's descriptions referred to similar cases to those which he had met with. Lastly, Mr. Hutchinson showed drawings of a form of vesicating erythema which, although allied to hydroa, was to be distinguished from it by tolerably well-marked symptomatic differences, and was not, in his opinion, caused by the iodide.

Surgery.

Transplantation of Skin.

In the *Berliner Klinische Wochenschrift*, No. 18, 1875, Dr. CLEMENS, of Rudolstadt, gives the results of some observations made on a case in which it was necessary, by reason of the extent of raw surface, to transplant about 120 pieces of skin. The subject of this case was a young woman aged twenty years, who had been scalded over nearly three-fourths of the surface of the body. The damage on the skin of the trunk seems not to have passed beyond the second degree of scald, but in the legs the epidermis had been quite destroyed, and extensive ulcers formed, from which there was a profuse and continuous discharge of pus. To these raw surfaces pieces of skin were transplanted, at first with no good results, but subsequently, on the application of a strong solution of nitrate of silver to swollen and unhealthy granulations, with complete success. Dr. Clemens found that the grafts placed on flabby granulations grew slightly, if at all; whilst those placed on granulations presenting a healthier appearance grew rapidly, stimulated cicatrization in surrounding parts of the ulcers, and speedily gave rise to the formation of a layer of normal epidermis. It was interesting, Dr. Clemens writes, to observe the behaviour of skin-grafts placed so closely together that their margins were in contact, and the granulations quite covered over. This method was practised over the tibiæ, where the suppuration threatened to lay bare the bone at several spots. The skin-grafts, thus placed in contact, united very soon and protected the bone. Where a graft had been placed on a lower level than its neighbors, the evenness of the epidermis soon became restored, the small depression being filled up. In many of the grafts there was excessive growth of epidermis from the surface, and the centres of the growing piece of transplanted skin were covered by deposits of a soft sebaceous material, not unlike that found on the surface of the fetus. In instances of this kind, the deposit of sebaceous material bore an inverse relation to the growth of epithelium at the margin of the graft. This case afforded opportunities for observing the influence exerted on the skin-grafts by the prolonged contact of water, as it was thought necessary to keep the trunk and lower limbs of this patient in a bath for several days and nights. It was then found that grafts applied but three or four days previously, soon died; whilst those that had been growing on the ulcers for seven or eight days before the use of the bath became arrested in growth, though they still maintained their vitality, and threw out on their surfaces masses of soft and white material, in which, on microscopical examination, epithelial cells were to be found. The grafts in this case were taken from many volunteers of both sexes, and mainly from the arm. For cutting away the piece of skin, Dr. Clemens prefers a dry knife to one moistened with water or smeared with oil. The graft taken with a dry knife can, it is stated, be more readily dealt with, and more rapidly takes root and grows. The smaller the portion of skin removed, the sooner will it adhere and the more quickly will it grow.—*London Med. Record*, June 9, 1875.

Conjunctival Grafting.

From the clinical report of Dr. MASSELOU, in the *Annales d'Oculistique* (March, 1875), it appears that grafting of the skin and of the conjunctiva has been attended with encouraging success in the practice of M. Wecker and of other continental surgeons, in the treatment of ectropion and other deformities of the eyelids; the grafts of skin have been taken from the arms of other patients, so that there has actually arisen a considerable traffic, each graft having a definite money value. It has been found, too, that portions of integument which have been removed during operations for entropion and the like, may be made available for the purpose. Although in general surgical practice skin-grafting has not realized the degree of success anticipated for it, in hands

of ophthalmic surgeons, it has been found most useful; and the high opinion of its value entertained by Dr. Masselon is fully endorsed by M. Illing, who has had great experience of it in Vienna. In M. Wecker's clinique the operation has, however, undergone some modifications, as it has also in the hands of Professor Stellwag von Carion; so that portions of skin of considerable size are now adapted to raw surfaces, and are kept in place by sutures; and the method which has been termed mosaic-grafting is not employed till the former plan has been tried and has failed, or in those cases in which the shape of the wound prevents the application of a flap to a raw surface.

The transplantation of the conjunctiva of the rabbit has twice been carried out with success; and it is impossible any longer to doubt that grafting of this kind will succeed, although the entire original graft appears to melt away. The cases in which Dr. Masselon recommends it are those of partial symblepharon; it was in such as these that Dr. Wolfe first tried it with success; in cases also where it is desired to form a smooth *cul-de-sac* in which the artificial eye may be worn, and in many instances where the conjunctiva has become contracted in consequence of prolonged disease, such as granulations, etc. The operation has been performed with success lately by several surgeons in Paris, by Otto Becker, and especially by Illing in Vienna. The tissue made use of has not always been the conjunctiva of a rabbit, but the mucous membrane of the human lips has been used; and, on one occasion, even the mucous membrane of the vagina was translated with success. Otto Becker advises that the graft should be taken from the conjunctiva of an eye which has been lost and has become wasted; but it is a remarkable fact that, when the mucous membrane of the rabbit has been used, the membrane in time appears to become completely absorbed, and to be replaced by a tissue which closely resembles that of the human eye; and, if further experience show this to be the case, it will be quite as advantageous to make use of it, seeing that it can be so readily procured.—*London Med. Record*, June 9, 1875.

Gonorrhœal Ophthalmia.

In a paper on this subject which appears in the *Berliner Klinische Wochenschrift* (March 15, 1875), Professor HIRSCHBERG has given a concise history of this most terrible form of ophthalmia, from which it appears that until the beginning of this century no description of the disease is to be met with; and the writings of those who first described it differ widely in the accounts of its mode of origin and of the treatment to be employed. Later writers have been more agreed as to its disastrous effects, and in consequence have given more precise directions for its treatment; and it is remarkable that several of our most eminent surgeons agree in asserting that the best results have been obtained in those cases in which mercury has been freely given. In his classical paper on diphtheritic ophthalmia (*Archiv*, vol. i. 1854), Von Gräfe has drawn a distinction between the cases which admit of cure by the energetic use of nitrate of silver, and others which call for much general treatment, and which seem to be greatly benefited by the employment of mercury, and it was while acting as Von Gräfe's assistant that Hirschberg had the opportunity of observing the same good effect of mercury in cases of purulent ophthalmia which were supposed to be due to inoculation by gonorrhœal matter. There is no doubt that this form of ophthalmia is as comparatively rare in other countries as it is in our own; and this is due, Dr. Hirschberg thinks, to the fact that it is difficult to set it up by slight inoculation, except in eyes which are unhealthy, and which present granular conditions of the conjunctiva; and that, as there is a tendency to rub eyes which are affected in this way, a patient with a urethral discharge is consequently more likely to contract ophthalmia of this kind.

The greater part of Hirschberg's paper is devoted to an account of the most minute details of a case of this kind, that of a lad who had for some time suffered from granular lids, and who had the misfortune, while under treatment, to acquire an acute gonorrhœa. The symptoms were typical, and were very severe. The left eye was first attacked, and in spite of every care the right

became affected a few days subsequently. The patient was completely isolated, and two nurses gave him their undivided attention. Mercury was used by inunction, and taken internally in the form of calomel. The eyes were carefully washed, and all discharges were syringed out every quarter of an hour; meanwhile iced applications were employed; when the chemosis was extreme the aperture of the eyelids was enlarged by an incision at the outer canthus in each eye, and in the later stages nitrate of silver in the form of the mitigated solid stick was used occasionally. During the progress of the case the cornea in each eye became ulcerated at the margins, and was treated by atropine; commencing suppuration in the centre of the right cornea was at once met by an incision into the anterior chamber, and the use of a compressive bandage.

In the result, which in spite of the severity of these symptoms may be considered most encouraging, very useful vision was restored to each eye at the expense of very limited opacity of each cornea.—*London Med. Record*, June 9, 1875.

Imperfect Teeth and Zonular Cataract.

MR. JONATHAN HUTCHINSON, in a paper read before the Pathological Society March 2d, 1875, called attention to this subject, and gave the following summary of the result of his investigations:—

1. That it is exceptional to meet with lamellar cataracts, excepting in association with an imperfect development of the enamel of the teeth; but that definite exceptions, in which the teeth are quite perfect, do occur.

2. That the kind of defect observed in the teeth consists in absence of the enamel, and is shown in the incisors, canines, and first molars of the *permanent* set, to the almost invariable exemption of the præmolars. That, for purposes of diagnosis, the first molars are by far the most important, and may rank as the test teeth, since they not unfrequently show the defect when the others escape.

3. That it is highly probable that the defects in the development of the teeth are usually due to the influence of mercury exhibited in infancy; although it is quite possible that other influences, attended perhaps by inflammation of the gums, may occasionally produce similar results.

4. That teeth of the kind alluded to are met with very often in persons who are not the subjects of zonular cataract.

5. That the very important observation made by Arlt, that the subjects of lamellar cataract have usually suffered from convulsions in infancy, is fully borne out by further examination; and that it is very unusual to find lamellar cataract without such history.

6. That it is probable that there is a direct connection between the occurrence of convulsions in infancy and the development of lamellar cataract.

7. That, whilst there is every reason to believe that the defective teeth which are met with in connection with lamellar cataract are the results of mercury, the evidence seems opposed to the belief that the lenticular opacity is also due to the influence of the drug. The great frequency of mercurial teeth without lamellar cataract, and the not very infrequent occurrence of lamellar cataract without mercurial teeth, are opposed to this view.

8. That the very frequent coincident occurrence of lamellar cataract with defective teeth, is to be explained by reference to the frequency with which mercury is given for the treatment of convulsions in infancy.

9. That there is no reason whatever for supposing that lamellar cataracts have any connection with hereditary syphilis.

10. That, whilst it is certainly true that lamellar cataracts are commonly met with in young persons who show general defects of development, short stature, ill-shaped heads, defective intellect, dwarfed lower jaws, or other physiognomical peculiarities, yet there is seldom any proof of the existence of rickets; whilst it is quite possible that the peculiarities mentioned may be due to the disturbance of the nervous system in infancy in connection with the convulsions.

11. It is very important to distinguish between mercurial teeth and syphilitic teeth, and the peculiarities presented by each usually render this easy; the two are, however, as might have been expected, not uncommonly met with together.

MR. HULKE said that he had listened to Mr. Hutchinson's remarks with great interest, but he ventured to think that other agencies were at work. Lamellar cataract occurred in the lower animals, and he remembered it in a cat of Mr. Bowman's years ago. There was no history of mercury there. Often only a single zone is affected; at other times there are several zones affected, with clear tissue betwixt them. A number of these, he believed, were produced early in intrauterine life, and are not produced afterwards.

MR. HUTCHINSON, in reply, said that Dr. Crisp has raised a most important question; but in many cases where these teeth were found there were no convulsions. As to the production of lamellar cataract in cats, he thought they were more likely to have fits than to have had mercury. In cases where fits were long continued there might be two zones produced at two different periods. A small zone might occur in intrauterine life. Usually, however, these zones were infantile and not congenital. A small zone might easily be overlooked in early life. He did not think that mercury was the only cause of these diseased teeth. Stomatitis of a non-mercurial character, if severe, might produce them. Mercury was one, and also a most common, cause of these teeth. As to Dr. Hare's statement that rickets might occasion these teeth, Dr. Hare had admitted that the disease was in the temporary teeth, whereas his remarks applied to the permanent teeth. In rickets, the infantile teeth are much affected, but the adult teeth were good. There was no lamellar cataract in rickety children. The mercury given to syphilitic children was a common cause of these mercurial teeth. Often the teeth presented a mixed form. It was only when mercury was given in large amounts that the teeth became affected. They were quite different from those teeth called by dentists "craggy teeth," where large plates of enamel were defective. Craggy teeth ran in families.—*Brit. Med. Journ.*, March 6, 1875.

On Disease of the Choroid Consequent on the Use of Chloral Hydrate.

Under this title, Dr. STEINHEIM has recorded (*Berliner Klinische Wochenschrift*, February 8, 1875) a remarkable instance in which inflammation of the choroid followed the administration of chloral hydrate on three several occasions in the same individual.

A married woman, aged thirty-nine, who in early life had enjoyed very good health, and who had given birth to five children, without any apparent reason had become the subject of most distressing asthma, so that, when she first presented herself to Dr. Steinheim, she was extremely emaciated and thoroughly worn out. The paroxysms of dyspnœa were very frequent, although she enjoyed short intervals of rest. A fortnight previously, when her sleep had been constantly broken for several nights, she took for the first time a dose of chloral, the immediate result of which was that her eyesight became dimmer, so that she saw everything as through a cloud, and could with difficulty see her way about; in the course of a few days her eyesight was gradually restored, but her conviction was very strong as to the effect of the medicine she had taken. On a second occasion, when chloral had been given to her much against her will, her eyesight again suddenly left her, so that she could with great difficulty distinguish light from darkness; at the same time her eyes appeared red and streaming with tears; but on this occasion the symptoms did not disappear as they had previously done, and consequently she sought further advice. When examined by Dr. Steinheim, she was extremely emaciated and in distress, her respirations 40 and pulse 140 in the minute; rhonchus and sibilus were present on both sides of the chest, but the heart was normal. The conjunctivæ on both sides were injected, but without chemosis; in the right eye there were punctiform opacities in the posterior layer of the cornea, the aqueous humour was turbid, and the pupil was full of lymph and was adherent to the capsule of the lens. In the left eye the aqueous humour was turbid; there were one

or two synechiae in the pupil, but not nearly to the same extent as in the right eye. Ophthalmoscopic examination was impossible, and the extent of the visual field was uncertain, although it was clear that there was good perception of light in each eye. As the employment of atropine produced no effect upon the pupils, an iridectomy was performed upwards in each eye, and with good results, inasmuch as the corneal wounds healed readily and well in spite of the patient's unfavourable condition; the media became much clearer, and the perception of light much increased; it was now possible to detect with the ophthalmoscope floating opacities within the vitreous body, although no details of the fundus could be made out. Subcutaneous injections of morphia had given her such relief, that at her own desire the patient was allowed to return home. For some time her condition and her health improved in every way, but after a recurrence of a most severe paroxysm, while under the care of another physician, she again took a dose of chloral which, as before, produced a quiet night, but on the following morning the same loss of vision occurred as on the previous occasions; but in this instance, unfortunately, the loss of vision appears to have been permanent and nearly complete. The nature of the symptoms in this remarkable case can hardly be doubted; the asthma was essentially the result of some severe disturbance of the nervous system, and the occurrence of disease within the eye in the shape of iridochoroiditis, on three several occasions immediately after taking a dose of chloral, cannot be looked upon as a mere coincidence. Steinheim is of the opinion that the order and the appearance of these symptoms were due to venous thrombosis in the choroid owing to the enfeebled condition of the heart and the arterial circulation. On its first occurrence, it was but partial, and the collateral circulation was sufficiently active to prevent any decided structural alteration, and consequently the loss of vision was limited and of short duration. On each subsequent occasion, however, the disturbance to the circulation was greater, and the structural change was more marked. In considering the features presented by this case, Steinheim attaches great value to recent observations made by Russian authors, Blesig and others, on the frequent occurrence of choroidal affections in connection with recurrent fevers, in which it is suggested that venous thrombosis is the starting point within the eye, induced by the enervated condition of the heart.

It is very well known, at the present time, to how great an extent the action of chloral is able to influence the heart's action and the respiration, its influence no doubt being due to its action upon the sympathetic nerve. The observations of Crichton Browne and of other writers upon the causation of many cases of urticaria and of erythema are illustrative of the derangements which result in the circulation, in consequence of defective or disturbed innervation of the bloodvessels; and Dr. Steinheim is of opinion that in this instance the disturbance of the choroidal circulation and the subsequent choroiditis were the direct result of the action of the chloral upon the nerves which preside over the intraocular circulation.—*Lond. Med. Record*, May 12, 1875.

On Nystagmus as the Result of Hemeralopia.

The *Berliner Klinische Wochenschrift* of November 23, 1874, contains an account of some very remarkable cases of this kind which had occurred in the practice of Dr. NIEDEN of Bochum. This distressing affection of the muscles is unfortunately very commonly met with in the eyes of children, and although most writers would allow the possibility of its occurrence during adult age, yet they would attribute it to some congenital peculiarity, or to some disease contracted in very early life. In the instances here brought forward no such history was forthcoming; and at first sight Dr. Niden was at a loss to account for the phenomena, occurring as they did under such extraordinary circumstances. The cases, six in number, are reported in great detail, and until we reach their explanation it is certainly remarkable that in no single instance was any structural alteration to be found in the eye either within or without; and the correctness of the diagnosis in each instance was verified by the cure which appropriate treatment was able to bring about.

H. B., aged thirty, a miner by occupation, applied for advice in February, 1874, and complained that for the last year he had been annoyed by a mist before his eyes, which he first noticed whenever he entered the mine and hung up his lamp at some distance from his work; for some short time he could look at the lamp without difficulty, but he then found the light begin to dance and to flit to and fro; he then became giddy and was compelled to shut his eyes. This gave him relief, but only for a time. When this state of things had lasted for a month, he noticed that his eyes had lost their power of fixation when he looked at any distant light, on his way to his work in the dim light of early morning; any effort on his part to steady his eyes immediately brought on headache and vertigo. As time went on, he found that his vision failed him after sunset, that he could read only with difficulty, and the light of his room was altogether insufficient; and yet in broad daylight and in sunshine his sight was perfect in every way. Except that he looked anæmic, there was nothing remarkable in his appearance. His eyes appeared normal in every way when first examined by daylight; their movements were perfect and entirely under his control; their vision was $\frac{1}{12}$, and they read Snellen $1\frac{1}{2}$ at 18 inches fluently. The field of vision and perception of colours were normal. So far, it was hard to say what was the nature of the affection. In the hope that the ophthalmoscope might reveal some structural change, the room was now darkened, and at once the symptoms such as he describes made their appearance. When he looked across the room, his eyes began to oscillate with extreme rapidity from left to right, and after a few moments he was compelled to shut them. When either eye was examined singly, the result was the same. His vision by this artificial light had fallen to $\frac{1}{4}$, and he could only read Snellen VI. with difficulty. The field of vision was not diminished, but the perception of colours was less acute. The ophthalmoscope revealed absolutely nothing abnormal. The daylight was again admitted into the room, and his symptoms disappeared once more. He regained control over his eyes, and his vision again was $\frac{1}{12}$. The existence of well-marked hemeralopia was thus evident; and although it could not be shown that the eyes of miners are especially liable to it, yet in the nature of this man's employment it was easy to read the explanation of its development. While at work in the mine, his eyes were accustomed to only very dim and imperfect illumination, and the sudden change to the bright light of the sky above which occurred daily was sufficient in time to exhaust the power of the retina to such an extent that it was unable to convey impressions whenever the sun went down, and when the man attempted to do anything by artificial light, or by any light less than that of broad day. To account for the nystagmus was not so easy; but from the man's own account, Dr. Nieden was inclined to believe that exposure to cold from draughts, and to foul air within the mine, had much to do with its production.

A second patient, from the very same pit, applied on the following day, with much the same complaint; the nystagmus, in his case, was around the horizontal axis of the eyeballs, whereas in the first case it had occurred mainly around the vertical axis. This man also was well in health, and his eyes presented no appearance whatever of disease, except their failing vision and their irregular movements under the circumstances above mentioned.

A third patient from another mine presented himself; in substance his condition and his symptoms were such as have been described; but in his case the condition of the mine could have had no influence, for its temperature and its ventilation were as perfect as it was possible to maintain them. A further illustration how nystagmus may develop in eyes which are affected with hemeralopia, and these not the eyes of miners or quarrymen, may be seen in Case 6, which Dr. Nieden records.

A timber hewer, aged forty-seven, was for years exposed to wind and weather during the spring and summer months; much of his work was over a saw-pit, where, for hours together as top-sawyer, he was compelled to fix his eyes steadily upon his saw. In bright sunshine, the reflection from this and from the smooth surfaces of the planks was very dazzling and fatiguing, and in the course of time he found that on a cloudy day his vision appeared much diminished, and, on looking around him, especially when evening came, all ob-

jects became unsteady, and he saw them double. During the winter time, when he was otherwise employed, these symptoms disappeared, to make themselves felt again, however, on the first spring day when he resumed his work. On examination by daylight his vision was nearly normal, with presbyopia = $\frac{3}{16}$ th, and oscillating nystagmus whenever he directed his eyes to any distant object; when the room was darkened his vision sank to $\frac{1}{6}$ th; in appearance, and in all other respects his eyes were normal.

It is characteristic of all the cases here recorded, that the irregular movements of the muscles appear to have arisen in consequence of the effort to compensate for the weakened power of the retina by increased exertions on the part of the muscles required for fixation, and also that no one pair of muscles was affected, but each and all of those supplied by the third pair of nerves, including the superior oblique. It is, therefore, impossible to classify them with those instances of hemeralopia which were described by Von Gräfe (*Archiv für Ophthalmologie*, vol. v. part 1) as being associated with insufficiency of the internal recti, inasmuch as in every one of them the failure in the muscles was displayed during distant vision, and, provided the light were good, the power of convergence and of reading was unaffected. Nor did any of the cases present those fatty growths beneath the conjunctiva similar to pinguecula, such as Bitot has described as characteristic of hemeralopia.

The treatment adopted appears to have been eminently successful; the eyes were protected by gray glasses, and strychnine was given continuously for some days by means of hypodermic injections. In one case only, in which the symptoms were of long standing, was it thought necessary to supplement this by the use of the continuous current, with the strength of six cells at first, increased subsequently to a strength of eight and of twelve cells. By these means, complete relief was in the end attained.—*London Med. Record*, May 5, 1875.

On Phthisical Otitis.

In the *Lyon Médical* for March there is a short review of M. BELLIERE'S work on the otitis of phthisical patients. M. Bellière considers (1) that the otitis seen in such cases is not a tubercular otitis, but a simple catarrh of the cavity, and (2) that this catarrh always follows a pathological state of the pharyngeal mucous membrane. He rejects the opinion of those who, with Ménière and Le Maître, consider tuberculization of the mastoid cells as the point of origin. He has several times determined the integrity of the mastoid cells in such patients while suffering from otitis. On the other hand, he cites, in favour of the propagation of the pharyngeal inflammation through the Eustachian tube to the tympanic cavity, the frequency of the glandular enlargements of the throat in such patients, and the fact that the lesions of the otitis of typhoid fever and of tuberculosis are identical.—*London Med. Record*, June 23, 1875.

On Anthrax and Furunculus of the Face.

After having in his *Thèse de Paris*, 1874, studied *de novo* the acute form of these inflammations when they are complicated with acute phlebitis spreading along the side of the head, Dr. J. LABATTU discusses some interesting points in relation to them, and especially the question of treatment. The gravity of anthrax of the face, complicated with phlebitis, is due to the spreading of the latter on the side of the cranial sinuses, or to purulent infections. The rapid supervention of exophthalmos indicates with certainty the spreading and the possibility of this inflammation of cranial sinuses. Large and early incisions seem to be the best means of preventing and sometimes putting a stop to the phlebitis. No medical means appear to exercise sufficient control over this affection. Dr. Labattu reports several interesting cases in support of his theory; amongst others, one in which he was the sufferer, and where multiplied incisions seem to have stopped incipient phlebitis.—*London Med. Record*, June 2, 1875.

On Adenoid Vegetations in the Pharyngeal Space.

In Nos. 3 and 4 of the *Allgem. Wiener Medizin. Zeitung* for 1875, Professor POLITZER, in the report of a clinical lecture, describes the methods he employs for the removal of these adenoid vegetations which are found especially on the upper wall of the pharyngeal space, and which often complicate affections of the middle ear. As a means of diagnosis, he considers the index finger superior to the use of the pharyngeal mirror. The instrument which he uses for their removal is a ring knife with the cutting edge towards the centre. The knife, held in the right hand, being passed through the nasal cavity nearest the vegetation to be operated on, the left index finger is introduced into the mouth, and the ring placed by it on the swelling and firmly pressed against it. The knife is now drawn towards the operator, cutting off the protruding part of the growth. The bleeding after the operation is not important, and quickly ceases under the injection of cold water through the nasal cavity. The operation is repeated till all the vegetations which can be felt by the finger are removed. Another method which he employs, is the application of fused nitrate of silver placed on a roughened silver probe. The pain occasioned by it he removes by the injection of a solution of common salt through the nostril. —*London Medical Record*, May 19, 1875.

Laparotomy for Intussusception.

Mr. JOSEPH BELL related to the Medico-Chirurgical Society of Edinburgh (*British Med. Journ.*, May 29, 1875) a case of operation for intussusception in a child. The intussusception was a very large, well marked, and severe one. Pain and vomiting were urgent. After the failure of large injection and inflation, he (with the assistance of Dr. Kirk of Bathgate, the medical attendant) cut into the abdomen in the middle line, and carefully unravelled the invagination, which was very long and complicated. The intestines were easily returned; flatus and feces escaped *per anum*; no further vomiting followed; but, unfortunately, the child was too much exhausted, and died in the course of the ensuing night. The child was three years and a half old. Mr. ANNANDALE approved of the operation; and believed it should be done, as even an exploratory incision would do no harm, and gave the patient the only chance. Dr. WATSON also thought such attempts should be made; but, in relating some cases in which he had operated for obstruction in adults, pointed out possible difficulties. He also told of a case of recovery without operation. Mr. BELL replied, referring to Mr. Hutchinson's successful case in a child.

The Proper Time for Aspiratory Puncture in the Treatment of Strangulated Hernia.

Dr. BOUISSON (in his *Thèse de Paris*, 1874, and *Bulletin de Thérapeutique*, April 30) passes in review the principal cases relating to this new method of treating strangulated herniæ. He reports eight in his own practice, which yielded seven cures. From the whole number of cases, amounting to thirty-five, he draws the following statistical results: Cases of cure by aspiration after taxis, twenty-seven; insufficient aspiration, keliotomy, cure, four; insufficient aspiration, death, four. These figures speak strongly in favour of this operation. It affords excellent results in inguinal hernia. The issue is less certain in crural hernia, notwithstanding that it has been successful in several cases; and it is desirable to try it in all practicable cases. Either Dieulafoy's or Potain's instrument may be used, provided that the needle be sufficiently fine.

The writer only distantly points out one contraindication—the doubt as to the integrity of the intestine, if the surgeon be called in too late; for the rest, the rules to which the employment of aspiration is submitted are the same as those of taxis, of which it is the most direct and efficacious auxiliary; therefore it should be performed as soon as a methodically performed taxis has proved the irreducibility of the hernia.—*London Med. Record*, June 2, 1875.

Extirpation of a Tumour of the Bladder.

Dr. CARL GUSSENBAUER reports (*Boston Med. and Surg. Journ.*, July 8, 1875) the following case of myoma of the bladder which deserves attention, as the tumour was correctly diagnosed and extirpated with an unexpectedly good result; also as the method of operating has never heretofore been employed, and, further, since microscopical examination proved the tumour to be of a variety rarely occurring in the bladder.

On June 3, 1874, D. J., a boy twelve years of age, was admitted to the clinic of Professor Billroth, suffering, according to his father's statement, from stone in the bladder. He had been troubled for ten months. The first symptoms were pain after passing water, localized in the glans penis and in the region of the bladder. After a while severe attacks of painful micturition set in, which in the course of ten months became more frequent, and often came on so suddenly that the boy could not prevent a sudden discharge of urine. At the time of admission the patient was obliged to pass his water every ten minutes, a small quantity each time, with frequent and severe pain, partly in the region of the bladder and partly in the glans. Urine was feebly acid, slightly cloudy, but contained nothing characteristic on microscopical examination except a moderate quantity of pus corpuscles and a few cells of bladder epithelium.

On examination a tumour was noticed in the region of the bladder, to the left of the median line. It was to be felt through the abdominal walls; it was apparently about the size of the fist, was hard and somewhat sensitive on pressure, slightly movable, attached apparently to the bladder. Per rectum the tumour was also felt. On introduction of the sound it was found to slide over an uneven surface. On careful examination it was noticed that the beak immediately on entering the bladder was pressed forward; and on attempting to move it from one side to another it always slid over an uneven tumour before reaching the back of the bladder. The combined examination with sound and finger, per rectum, proved clearly that a tumour connected with the back of the bladder hindered the movement of the sound. The consistence of the tumour was that of a fibro-sarcoma, and the size that of a small fist.

The rapid growth of the tumour demanded energetic treatment, as it promised, in the state of suffering in which the patient then was, soon to end his life.

The operation of extirpation was performed on June 15, 1874, in the following way: After the patient was narcotized the lateral incision for removal of stone was made. The finger introduced into the bladder showed immediately that a tumour nearly the size of the fist, with an uneven surface, projected from the posterior wall and extended towards the top of the cavity of the bladder. Owing to its size, it was found impossible to extract the tumour, with the finger, from the perineum. A supra-pubic incision was then made, without injury to the peritoneum, and to give sufficient room both recti muscles were cut across at their insertion; also a transverse incision into the bladder was made. Professor Billroth soon came to the conclusion, after examining with the finger, that the use of the *écraseur* was not practicable or desirable, as the tumour possibly might be already adherent to the peritoneum, in which case the latter would have been so injured as to delay healing. He therefore decided to tear the tumour with his finger near its base and to cut out the remainder from the wall of the bladder, after passing a ligature round to check bleeding. The extraction of the torn pieces of the tumour was not so easy, in spite of the large size of the incision, as would have been supposed. In dissecting out the pedicle it was necessary to turn the bladder partly inside out. It then appeared that the tumour took its origin from the muscular coat of the bladder, but had not attacked the outer coat or the peritoneum. The plan was, in case the peritoneum had been opened, to close the hole with sutures. Two arteries were tied and the ligatures brought out through the upper incision in the bladder.

The wound in the bladder was not closed, as primary intention was not probable after the tearing which the size of the tumour had made necessary. To prevent the flowing of urine over the upper wound (so often the cause of

pericystitis after the supra-pubic operation), a drainage-tube was drawn through the bladder and brought out at the incision in the perineum, in the expectation that the urine would flow through the tube. This proved to be correct, but only when the tube was pushed so high up that it appeared over the symphysis. The walls of the bladder were pressed together by the weight of the intestine; consequently the urine collected in the place where the resistance was the least, *i. e.*, above the bladder. If the opening in the drainage-tube was at this place, the urine ran off by the perineum. If, however, the position of the tube was altered, the urine collected (as is the case always in the high operation for stone when the wound of the bladder is not closed) until it reached the level of the skin, and flowed over the abdomen, no urine at all passing through the drainage-tube. I mention this apparently trivial circumstance as I became convinced, on observing the course of the case, that the drainage-tube especially contributed to the favourable result in the case. This was remarkably good, considering the apparently severe operation. The triple wound caused hardly any reaction—rarely the case even in successful cases of lithotomy. There was no inclination to a pericystitis or infiltration of the subcutaneous tissues, nor the slightest peritonitis. The first two days after the operation the patient's temperature was 37.8°C . (100°F .) and 38.8°C . (101.8°F .). On the third day the evening temperature rose to 39.6°C . (103.4°F .), but on the fourth day it sank to 38.2°C . (100.6°F .). On the sixth day there was no fever. On the fifth day after the operation, as the wound was granulating well, and there was no danger of infiltration of urine, the drainage-tube was removed. The wound, on the twelfth day after the operation, was so small that the urine came partly by the urethra. The patient was discharged July 18, perfectly well, wearing a pad to counteract any tendency to hernia.

The tumour was eight centimeters long, four broad. Its largest circumference was eighteen centimetres, its smallest thirteen. It sat directly on the muscular layer of the bladder. Its base was seven centimetres in circumference. There was no ulceration, the surface was smooth, but an epithelial coating was not to be determined without the microscope. From its consistence, its appearance, and that of the cut surface, it would have been regarded as a soft fibroma. But the remarkable friability made it improbable that it was an ordinary fibroma. The friability was as marked as one usually sees in spindle-celled sarcomas only. But a merely superficial microscopical examination was sufficient to determine that the tumour was a myoma.

Chylocele.

Dr. C. H. MASTIN, of Mobile, Ala., reports (*Am. Medical Weekly*, June 19, 1875) the following interesting case: W. H. W., aged 22 years, presented himself in 1874 for treatment, with the following history: "Some eight years ago he first discovered an enlargement of his scrotum, which slowly increased in size, causing him to seek medical advice, but it was not until four years after that date that he was tapped, and a quantity of 'white fluid' drawn off; then again the sack rapidly refilled, and on three several occasions he resorted to the same operation. No relief being obtained, he came to consult me as to the propriety of some other method of operation, saying he was willing to submit to any course of treatment by which he could be cured. Thinking I was to deal with an ordinary case of hydrocele, I introduced a trocar, intending to evacuate the sack, and then induce adhesive inflammation by passing into the cavity of the tunica-vaginalis a soft gum bougie, coiling it up and leaving it until sufficient inflammation was produced to obliterate the sac. Finding that, instead of the usual serous fluid which is contained in hydrocele sacs, there was a thick white fluid evacuated, having all the appearances of milk, I was astonished, and having never met a case of the sort before, nor ever having had my attention attracted to a similar one on record, I concluded neither to inject nor introduce anything into the sac, until I had become satisfied as to the nature of the disease with which I had to deal.

"Measuring the amount of the fluid which I had drawn away, I found that the sac had contained just eight fluidounces. The sac was dense, firm, and

elastic, the testicle was slightly enlarged, yet no appearance of any disease of the gland itself.

"The fluid was forwarded, for inspection, to Dr. Jas. Tyson, of Phila., who reported the fluid to be 'alkaline, sp. gr. 1015, highly albuminous, and to be made up, as determined by microscopic examination, of innumerable molecules, which are mere points under a power of 400 diameters, together with a limited number of small granular cell somewhat smaller, but otherwise resembling the colorless corpuscles of the blood floating in a serous fluid. Its physical characters are precisely those of chyle; chemically I find it almost completely dissolved by ether, and after evaporation of the latter to leave a cream-like mass; there were no spermatozooids whatever. The fluid is, not only in its physical, but its chemical, characters, comparable to chyle, and I believe its origin to be similar to that of chylous urine, so called, which is probably due to the leakage of a lymph vessel into the bladder."

"In April, 1875, the patient again presented himself. I now found the sac filled, as on the first occasion that I saw him. Being unwilling to inject a sac in which I had every reason to believe a lymphatic had opened and was discharging its peculiar fluid, and being anxious to see and examine the cavity of the sac which offered so peculiar a fluid, and, if possible, to detect the vessel or ducts which were pouring out the chylous deposit, I proposed to him to cut down upon the tunica, evacuate the fluid, and then have resort to the operation of excision of a portion of the sac, as the best means from which a radical cure could be obtained.

"To this end, on the 5th of April, I performed the operation, which I will briefly describe. Making an incision through the integuments down on the tunica-vaginalis, I evacuated eight fluidounces of the same kind of fluid which had been discharged by my first operation. I now opened the sac freely for the distance of two and a half to three inches. I found it very much thickened, dense in structure, hard, firm, and about four millimeters in thickness. Examining carefully the cavity, I found it smooth, polished, and of a pearly white; at its upper portion just where it began to be reflected over the testis, I discovered a small, round, granular-looking mass about the size of an ordinary English pea; this I sliced off with a pair of scissors, and at once recognized the patulous mouths of three or four small vessels—vessels which did not bleed, and which, from all appearances to the naked eye, I believe were the mouths of lymphatics. I dissected them back for a short distance to see whether they communicated with either the cord or the gland, but found they passed into the cellular tissue around the upper portion of the testis. I concluded to tie the bundle *en masse* with a small and very strong silk ligature, so as to shut off communication from the tunica-vaginalis, and then bring the end of the ligature to the outside. I then carefully excised all the front wall of the tunica, and with some four or five delicate silk sutures, coaptated the edges of the sac, so as to close up the cavity, leaving one end of each suture free. I brought them to the outside, and then having passed through the sac a small gum drainage tube, I closed the incision in integuments with four pin sutures, and ordered the parts to be constantly wet with a lotion of lead water and arnica. He then took a full dose of quinia, fifteen grains, with forty drops of Mc-Munn's Elixir.

"The case progressed favourably, with no fever, pain, or any untoward symptoms until the fourth day, when I found the wound in the integuments firmly united by primary union, and no evidence of any suppuration or inflammation deeper in the scrotum. I removed the pins. The drainage-tube escaping from the scrotum during the night of the first day on which the operation was done, I did not deem it necessary to replace it."

— *Arthritis Deformans.*

From the reports of Dr. DUPLAY's practice in the Hospital St. Antoine, by Dr. Gillette, published in the *Journal des Connaissances Medico-Chirurgicales*, we learn that Dr. Duplay treats this affection externally by tincture of iodine, revulsives, etc.; internally by sulphurous waters. Dr. Gillette ob-

serves that as a general rule, when the peculiar nature of an affection is not detected, it is very difficult to define its therapeutic indications; and this is precisely what occurs with arthritis deformans since the modern researches of which it has been the object. The intra- and extra-articular lesions belonging to it are known, such as the velvety condition of the cartilages, the arborescent productions of the synovial membrane, eburnation and transformation into *têtes d'ivoire*, ossifications of the ligaments, muscles, points and stalactites, foreign bodies; but the etiological conditions are ill-defined; sometimes a traumatic precedent (sprain, intra-articular fracture, luxation) does not admit of any doubt; sometimes a diathesis, principally of the rheumatic kind, is discovered; sometimes nothing at all. Quite lately, however, a variety of arthritis called trophic arthritis has been described, which is developed under the influence of a change in the nervous centres. M. Duplay is inclined to regard arthritis deformans as the result of a trophic disturbance, of an aberration of the nutrition of the joint, so that, in his opinion, the term arthritis is not a proper one, for the inflammation is certainly the least marked element. The treatment of this ill-defined affection is mostly in accordance with the complications it brings in its train. Thus it is frequently accompanied by very abundant articular effusions, fungosities, etc. Recourse must then be had to revulsives, blisters, methodical compression of the joint, painting with tincture of iodine, etc. M. Duplay advises that too much stress should not be laid on the immovability which is found to be so useful in the treatment of the other varieties of arthritis. In fact, in dry arthritis, notwithstanding the great deformity which is the fundamental characteristic of the disease, the movements of the joints are partly preserved, though with the well-known rubbings and cracklings. Also in condemning such an articulation to a too prolonged immovability, it is deprived of the only benefit left by the affection itself, in the preservation of some movements; since every healthy object submitted to immovability partly loses its functions, and in a higher degree when it is in a diseased condition. M. Duplay looks on the iodized preparations, and the iodide of potassium in particular, as being to a certain extent efficacious; but a powerful modifying agent, which, unfortunately, can only be employed by persons in easy circumstances, is the treatment by taking the sulphurous waters at Plombières or Nérès for several seasons. These waters suit chronic rheumatism, and sometimes render great services to patients suffering from arthritis deformans.—*London Med. Record*, June 16, 1875.

— *Five Cases of Resection of the Sternum and Ribs.*

Professor MAZZONI relates the following cases in his *Anno Secondo di Clinica Chirurgica*, Rome, 1874 (abstract in *Annali Universali di Medicina*, March, 1875).

Case 1. *Myxosarcoma in the Sternal Region; Extirpation*.—A countryman, aged fifty-five, a year previously perceived a small hard painless tumour over the middle of the sternum. In five months it acquired a circumference of nearly sixteen inches. The skin covering it was normal; it was adherent to the bone, and presented fluctuation at some points, being hard and painless to pressure in others. In removing it, it was found necessary to excise the sternum from the manubrium to the ensiform cartilage, along with portions of the second, third, and fourth costal cartilages. The mediastinum was exposed, and the pulsation of the heart could be seen. The wound was at first dressed with carbolized oil, afterwards with permanganate of potash. A diarrhoea which the patient had having been suppressed, the wound appeared to be healing favourably, when, fifteen days after the operation, symptoms of pulmonary congestion set in, and passed into hypostatic capillary pneumonia, which ended in death. At the necropsy, the base of the wound was found covered with healthy granulations, and the posterior and inferior parts of both lungs presented indications of broncho-pneumonia.

Case 2. *Caries of the Sternum and of the First Right Rib*.—A young man, aged twenty-three, of lymphatic temperament, had three abscesses, one over the anterior surface of the ensiform cartilage, another on the middle and inter-

nal part of the clavicle, reaching downwards as far as the third rib, and a third on the middle of the sternum towards the right side. After opening them, caries of the sternum was found to exist. Professor Mazzoni exposed by a semilunar incision the central part of the sternum, and removed it, the periosteum being preserved. The right end of the incision was prolonged as far as the end of the first rib, which was found to be carious, and was removed. The result of the case was successful; the healing was, however, impeded somewhat by the formation of a sinus passing from the sternum to below the breast.

Case 3. Necrotic Caries of the Fifth, Sixth, and Seventh Ribs.—A girl aged thirteen, of cachectic habit, had four years previously received a blow over the seventh right rib. She had an abscess, which, after opening, left a fistulous sinus through which were removed several pieces of bone. The opening did not close, and three years later she was taken into hospital. The right side of the chest, from the first to the ninth rib, measured an inch more than the left, and the cutaneous veins were dilated. Professor Mazzoni removed about 0.8 inch of the fifth rib, 1.6 inches of the sixth, and 0.8 inch of the seventh. The wound was dressed with carbolized oil. The reaction was moderate, and ceased on the fifth day; nothing abnormal ensued, and recovery was complete.

Case 4. Caries of the Fifth Right Rib.—A scrofulous boy, aged ten, who had already had enlarged glands, had caries of the fifth right rib in the axillary line. Dr. Mazzoni excised about 1.2 inches. There was considerable febrile reaction, but at the end of about a month healing was complete.

Case 5. Caries of the Sixth and Seventh Costal Cartilages and of the Margin of the Sternum.—A countryman, aged forty-four, who had not previously had an illness of importance, was attacked, after a fever which was believed to be rheumatic, with pain in the region of the sixth and seventh cartilages. An abscess of the size of a hen's egg formed, and, after opening, left a sore which refused to heal; besides which, there was a fistulous opening, leading to carious cartilage. The fistula having been dilated, the cartilages were resected. The wound cicatrized without general or local reaction; but not completely, as a sinus was left, through which the edge of the sternum was felt to be denuded. This was removed, with the gonge, and the actual cautery was applied; after which, recovery was complete.—*London Med. Record*, May 19, 1875.

Resection of the Knee after Gunshot Wound.

In this contribution (*Berliner Klinische Wochenschrift*, No. 20, 1875), Dr. MEUSEL, of Gotha, reports two successful cases of resection of the knee-joint after gunshot wound. The subject of the first case, treated by Dr. Meusel himself, was a man aged twenty-five years, who had been struck in the region of the left knee-joint by a ball from a revolver, fired at a short distance. The projectile entered about one-quarter of an inch below the lower margin of the patella, passed through the ligamentum patellæ, and then downwards into the upper epiphysis of the tibia. The canal formed in the bone had smooth walls, and at its extremity, near the posterior surface of the tibia, the ball could be felt with a probe, but was so firmly fixed that it could not be dislodged by bullet-forceps. When the patient was first seen on the day of the accident by Dr. Meusel, the knee was of the normal size and free from pain. On the supposition that the joint had not been opened, the limb was fixed in a gypsum bandage. On the sixth day the joint commenced to swell, and two days later became much larger, and very painful, the patient at the same time being very feverish. On compressing the upper part of the joint, thin pus could be forced from the external opening. On the ninth day the joint was excised. A transverse incision was made below the patella, and carried through the wound in the skin made by the ball. A portion of the lower end of the femur, four centimètres in thickness, was removed, and a thin section taken from the head of the tibia, exposing the ball, which, together with a small piece of clothing, was extracted by forceps. The patella was left. One examination of the joint during the operation, it was found that the capsule had been wounded by the projectile. The synovial membrane was red, and thickened, and the joint con-

tained purulent fluid. The tibia had not been splintered. At the eighth week there was firm union between the femur and the tibia, and six months after the operation the patient was discharged as cured, the limb being shorter than its fellow by about five centimetres. The patella remained movable, and could be pulled upwards by the action of the quadriceps extensor muscle.

The second case was one in which Professor Nussbaum performed primary resection of the knee of a young lieutenant, wounded by a Chassepot ball, in the Franco-Prussian war. The ball had passed inwards near the external condyle, had shattered the lower portion of the patella, and had finally made its exit at the inner surface of the joint. The operation was performed within a few hours after the injury had been received. A transverse incision was made across the front of the joint. The upper half of the patella was left. The patient made a good recovery, the limb being shortened by about six centimetres.—*London Med. Record*, June 16, 1875.

Fracture of Spine; Compression of the Cord; Removal of the Depressed Bone.

Dr. H. A. CLARK reported to the Cincinnati Academy of Medicine (*The Clinic*, June 5, 1875) the following case, the operation upon which he had witnessed by invitation of Drs. Stemen and Sherrick, of Van Wert, Ohio, who had it in charge:—

W. P. W.—, an artisan aged 39, married and in good health, while engaged in a gravel bank was injured in the spine by the falling in of a mass of earth. An examination of the injury showed fracture of the 11th dorsal vertebra with depression of the arch; considerable inflammation with swelling of the back, even up to the neck, followed the injury. But little more is known of the immediate results of the accident, as the early history of the case was not accessible. About a month ago (nine months after the injury) the case came under the care of Drs. Stemen and Sherrick, of Van Wert, by whom the speaker was invited to witness the operation. Their examination elicited the following: A depression over the site of the 11th dorsal vertebra, the tip of the spinous process of which was detached, and from the symptoms presented Dr. Stemen surmised fracture of the laminae and compression of the spinal cord (which proved correct), and did not deem it safe to push the physical examination further than to ascertain that there was then present no sign of inflammation in the parts involved. The pressure had produced complete paralysis of all the parts below the seat of injury; no motion whatever could be effected by volition in the palsied muscles, and hardly sufficient sensation could be perceived in the lower limbs to determine which one was being sharply pinched. There was no control whatever over the sphincters of the anus and bladder. The bowels generally constipated. On the 24th instant (ten months after the receipt of the injury), Drs. Stemen and Sherrick operated for the purpose of removing the compression on the spinal cord. A linear incision was made in the median line over the seat of injury, and the vertebrae exposed by dissecting off the adjacent soft parts. Fracture of both laminae was now discovered, as had been anticipated; on the left side the lamina was completely fractured with depression, on the right side was a partial fracture of the lamina or bending so as to permit the left end of the fragment to be depressed. This fragment, which included the spinous process, was firmly fixed in the position described. Both laminae were cut nearly through with Hey's saw at the seat of fracture, and an effort made to remove the fragment by firmly seizing the spinous process, but it could not be removed by any force that seemed justifiable. The spinous process was then removed with a bone forceps. This made room for the application of the trephine, by means of which the left or depressed end of the fragment was removed almost entire and the arch restored to its normal contour. On removing the cap of bone isolated by the trephine, the meninges of the cord pressed backwards and bulged into the opening. The wound was dressed by a few interrupted sutures,

a piece of wet lint and a wet sponge as an elastic compress held by a body bandage. It is a satisfaction to say that no marked disturbance followed the operation. The pulse has never been over 90 since the operation. The wound healed by first intention, except at the point where the fragment of bone was removed. The wound seemed hardly to produce inflammation, as no perceptible swelling followed; hardly any increase of temperature was perceptible. The night after the operation the patient slept well, the next day he ate as usual and stated that he felt more comfortable than before. There was a slight soreness in the back with occasionally a prickling sensation, also now and then sharp pains running through the bladder and legs, which he described as telegraph operations. Sensation was improved so that he could tell what exact toe was touched, but no motion. When the doctor last saw the patient, on the third day after the operation, there was every reason to anticipate a speedy recovery from the operation, and Drs. Stemen and Sherrick had high hopes of some relief from his previous condition, though to what extent is of course a matter of the merest conjecture. This operation has been performed in all 38 times, the case now reported making the 39th; of these, 29 died. It was twice performed by Dr. Blackman. Dr. Stemen's makes the third in the State of Ohio.

The doctor had just received a letter from Dr. Stemen to the effect that the patient was still improving; sensation was returning to the palsied extremities, and he was regaining some control of the sphincters. The wound was healing kindly and with but little suppuration. Pulse and temperature were not above normal. The treatment by hypodermic injections of morphia was continued. This letter was dated five days after the operation.

Dr. CONNER remarked that the mode of operation in this case was rather unusual. The most recent authorities object to the use of Hey's saw and trephine, and consider the bone forceps preferable. He considered the operation perfectly justifiable in this and similar cases, notwithstanding the statistics showing the mortality of this procedure. And as to the statistics in the latest work on surgery (Ashhurst's), the speaker did not consider them complete. He remembered having heard the late Dr. Blackman claim to have trephined the spine oftener than any other person, and yet he is credited with but one case by the author mentioned. The doctor, however, was unable to find a record of more than one case operated upon by Blackman.

Dr. MUSCROFT had witnessed two operations by Dr. Blackman (in addition to the one mentioned by Dr. Conner) in which he had trephined the spine for fracture and depression. Did not remember the result of these operations. He thought the success of the case reported this evening depended on the fact that the cord had not been torn but simply compressed. He had personally attended seven or eight cases of dislocation or fracture or combination of both. One case was remarkable; there was fracture of the seventh cervical, with complete rupture of the cord, in addition to a dislocation of another cervical vertebra a little higher up. When first seen, the patient was perfectly unconscious, besides having lost all motion and sensation below the point of injury. After the reduction of the dislocation, consciousness was restored and the patient remained so for 72 hours, during which time he was able to indistinctly articulate. He knew of two cases of dislocation which had recovered, the one without any reduction of the dislocation. He had another patient with fracture of a dorsal vertebra who, after lying on his back for several years, gradually regained control of the sphincters and also the use of the lower extremities. The speaker remarked that inflammation of the bladder was very liable to take place from decomposition of the urine.

On the Use of Adhesive Plaster in Fracture of the Patella.

Dr. JOHN NEILL, Clinical Professor of Surgery in the University of Pennsylvania, thus describes (*Phila. Med. Times*, June 26, 1875) his dressing for fractured patella.

The apparatus consists merely of a back-splint, strips of adhesive plaster three-fourths of a yard long and one inch wide, and two or three rollers.

The back-splint should be made of half-inch plank, and should reach from the middle of the thigh to the middle of the leg, at the same time corresponding to the thickness of the limb. It should be padded on its upper surface in the middle, to fill up very fully the popliteal hollow. After it is applied to the back of the knee it can be retained at first by a strap or two circularly applied at each extremity. Then the accurate coaptation of the fragments is to be effected by applying the middle of the loop of a plaster-strip immediately below the lower fragment, and drawing the extremities upward and obliquely, fastening them to the under surface of the splint. The wooden surface secures a firm adhesion, much more so than if the ends of the strips were fastened to the skin. After the lower fragment is fixed, the upper can be approximated to it in the same manner by loops successively applied, and the extremities drawn very obliquely to the lower and under surface of the splint. Then a roller is to be applied from the foot upwards, extending beyond the middle of the thigh so as to compress the muscles and prevent the extensor from contracting. Now the limb is placed upon an inclined plane, and elevated as much as possible, so as to approximate the origin and insertion of the rectus muscle. In a few days the swelling subsides, and the dressings should then be reapplied, and thus the fragments can be still more closely approximated, and the probability of a short ligament considerably enhanced.

Midwifery and Gynæcology.

On Adhesion of the Placenta.

Dr. J. G. SWAYNE, Consulting Physician-Accoucheur to the Bristol General Hospital, states (*British Med. Journ.*, June 19, 1875) that since he has been in practice he has attended forty-three cases of morbid adhesion of the placenta; but, singular to relate, none of these occurred in the early years of his practice, which he accounts for by the difference in the station and habits of life of his later *clientelle*. "Here, I believe," he says, "we shall find the solution of the problem. The 264 patients attended by me in the first ten years of obstetric practice were nearly all very poor, or ought to have been very poor, for I attended them gratuitously in connection with various lying-in charities; only thirty-seven out of the number being private patients, who paid me for my services. During the last ten years, the 576 cases recorded, with very few exceptions, belonged to the upper and middle ranks of society. Moreover, I have carefully noted the names and addresses of the forty-three cases of placental adhesion, and I do not find one that could be called poor. All were in easy or even affluent circumstances.

"The facts just mentioned lead me to believe that placental adhesion arises from a depraved condition of the blood of the mother, analogous to what is considered to exist in a rheumatic or rather gouty diathesis; and that this peculiar state of the blood is induced by a too stimulating and nutritious diet, combined, perhaps, with too little exercise. I do not think that the abuse of fermented liquors, or syphilitic taint, has anything to do with it; for those causes would be more likely to be in operation amongst the lower classes; and in nearly all the forty-three cases I have recorded, there was not the least reason to suspect that either of these causes existed. I believe that too many meals in the day, and too much animal food, are the real causes; and what we know of the habits of society in the present day tends to favor this idea. We most of us eat too much and too often. Instead of three meals a day, which ought to be enough for any one in ordinary health, most people take four, or even five; and instead of eating meat at most twice a day, many will eat it three or even four times, and say that they cannot keep up their strength on less; and this idea is being continually impressed on the minds of ladies either

nursing or pregnant. These habits, combined with the small amount of active muscular exercise which married ladies usually take, are quite sufficient to produce the peculiar diathesis to which I have alluded.

"For the reasons I have already stated, I have come to the conclusion that adhesion is rather due to disease of the placenta than of the uterus, and that it is mostly met with in the rich and well-to-do class. In this respect I must differ *in toto* from Dr. F. Ramsbotham, who states that 'adhesion of the placenta is more frequent in the lower classes than in the higher circles; and this is easily explained by the greater liability of the poor to such accidents during pregnancy as are likely to induce inflammation in the uterine structure, and which may terminate in the agglutination of the two surfaces together.'

"In accordance with the theory I have put forth as to the effect of high living in the production of adherent placenta, I can easily explain why there should be only two cases of it in the 1236 deliveries at the Rotunda Hospital, Dublin; but I cannot account for the small number met with by Dr. Churchill in private practice. It is very possible that the upper and middle classes in Ireland do not, as a rule, take so much animal food as they do in England; or there may be some other important difference in their habits of life. The labouring class certainly take much less than the same class in England.

"There are a few other points of interest in my record of cases which I must speak of very briefly. Thus, twelve of the forty-three cases were primiparæ, and thirty-one multiparæ. Amongst the latter, there were five cases in which the placenta was adherent in more than one confinement. Thus I had to remove it twice in four patients, and five times in one. In this case I had to remove the placenta for adhesion only in the third and fourth confinements, for hour-glass contraction only in the fifth, and for both hour-glass contraction and adhesion in the sixth and seventh. The placenta in some of these instances were more diseased than any others I have examined. The patient to whom this occurred was the wife of a shopkeeper who was doing a very large and respectable business, and was in very comfortable circumstances. For some months before her confinement, her countenance wore a very sallow cachectic aspect; but I do not think she ever had any decided symptoms of gout or rheumatism. This and the other cases I have just given show (what has often been remarked before) the great tendency which adhesion of the placenta has to recur.

"In eighteen cases out of the forty-three, the adhesion of the placenta was complicated with hour-glass or irregular contraction of the uterus, and in twenty-five it was uncomplicated.

"There were two deaths in the forty-three cases; but in neither of these did the fatal result seem to be directly traceable to the hemorrhage or septicæmia, which are the usual sources of danger from adherent placenta. In one case, the placenta was enormously enlarged, and apparently in a state of fatty degeneration. The patient was suffering from jaundice and albuminuria, and in such a precarious condition that it was necessary to induce premature labour at the seventh month. She died from the shock within two days after delivery. In the other case, the patient had symptoms of ruptured uterus. She had given birth to a child with hydrocephalus, which had been expelled by three or four violent pains. From the time of the child's birth, she suffered the most acute pain, and was in a state of great prostration, and this continued until her death a few hours afterwards. There was no hemorrhage of consequence; and, when I introduced my hand to remove the placenta, I could detect no rent in the uterus. Unfortunately, I could not succeed in obtaining a *post-mortem* examination."

Diminution of the Uterus after Delivery.

In an elaborate article on this subject, communicated to the Obstretical Society of Edinburgh (*Edinburgh Med. Journ.*, May, 1875) Dr. AR. SERDUKOFF arrives at the following conclusions:—

1. Involution of the uterus goes on more rapidly during the first few days of the puerperal period than it subsequently does.

2. Involution of the uterus of healthy women goes on well and with regularity.

3. Involution, where the uterus is the subject of disease, such as metritis, endometritis, or parametritis, goes on more slowly, and this varies with the amount of disease.

4. The permanent contraction which takes place during the first few hours after delivery is a common occurrence. When it passes off an increase in size begins to take place.

5. In women delivered at the full time, involution goes on more quickly and regularly than in those prematurely confined.

6. Length of labour retards involution.

7. In primiparæ involution of the uterus goes on very regularly, but more slowly than in young multiparæ. In aged multiparæ involution does not go on so well.

8. In women who suckle their children, involution during the first four days does not go on so quickly as in those who do not nurse. But subsequently, the involution is quicker, though less regular.

9. After-pains are not necessary for a favourable involution; in fact, we are as well without them.

10. In order to determine the involution of the uterus, you should only measure its breadth.

11. Involution of the uterus goes on proportionately in length as well as breadth.

12. Super-involution and sub-involution occur as distinct uncomplicated pathological conditions.

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On the Causation of Puerperal Fever.

Dr. A. L. GALABIN, Assistant Obstetric Physician to Guy's Hospital, in an interesting article on this subject (*British Med. Journ.*, May 22, 1875) draws the conclusion that there is much ground for the conjecture that the primary cause, both of puerperal eclampsia and of albuminuria, is the presence of some injurious matter circulating in the blood; but that there is strong evidence to lead us to believe that it is not sufficient by itself to produce the convulsions, until nephritis has actually commenced, although it may not yet have reached the stage of albuminuria.

It is extremely unlikely, however, that in puerperal cases this injurious material in the blood should be developed so suddenly as to produce directly and independently both eclampsia and a fully developed nephritis within the space of a few hours. And the facts brought forward by Dr. Hicks, showing that the appearance of albumen in the urine in some cases does not precede the eclampsia, or even follow it after an interval of an hour or two, do not, when rightly considered, prove that nephritis is not the cause of the convulsions. For, although albuminuria is the chief available sign of kidney-disease, it is not necessarily, either according to logic or experience, its first effect. Thus we know that chronic degeneration of the kidney may exist for some time, and produce decided effects upon the system, before any albuminuria occurs; and, again, cases are known of scarlatinal dropsy, in which the dropsy precedes by some hours, or by even a day, the appearance of albumen in the urine. As, therefore, in that case, the failure in the excretion of water precedes the albuminuria, so, in the case of puerperal nephritis, may the loss of power to excrete solid matters.

It is to be remembered, at the same time, that now and then, although very rarely, cases of puerperal convulsions occur in which no albumen can be found in the urine either before or after the fits. The pathology of these would seem to be entirely different, and to be more nearly allied to that of ordinary epilepsy.

Some Practical Hints concerning the Cure of New-born Children.

Dr. CHARLES E. BUCKINGHAM, Prof. of Obstetrics in Harvard College, presents (*Boston Medical and Surgical Journal*, March 25, 1875) the following hints for the management of new-born children.

Under ordinary circumstances, the first thing to be done to the child is to clean it. Babies are born with more or less of that disagreeable salve-like matter sticking to their skins. Sometimes the whole body is covered with it; the hair is filled with it, and the eyebrows. Sometimes, on the other hand, it is hardly to be seen, except in the folds of the groins, in the axillæ, in the cleft of the nates, and about the neck; and in an occasional case you will find it only about the labia, if a female child, or if a male child, between the scrotum and the thighs. This substance, known as the vernix caseosa, does not seem to be any more or less abundant according to the healthful condition of mother or child. But it must be got rid of, or the folds and clefts will become sore. Water alone will not remove it, neither will any ordinary rubbing with soap. Oily substances will mix with it, with very slight rubbing, and the use of soap and water will then, with perfect ease, remove the mixture. Of late, I have very frequently advised the use of oil alone to clean the new-born child; no soap, no water; a little sweet oil rubbed in with a small bit of sponge; and as each part in turn has been oiled, and then wiped off dry with the towel, the child is as clean as if washed with soap and water. Many persons have an idea that unless soap and water be used the child cannot be clean. But oil is as clean as soap. The object of washing is to get rid of dirt, and it depends upon what the particular dirt is composed of, whether soap, or oil, or some other substance is the best thing to use for its removal. Alcohol has been substituted for oil to dissolve this substance, but the objection to its use is that it dissolves the oily matter from the child's skin, and also that it has the effect to chill the child. In either case, too much work would be thrown upon the lungs of the new-born.

The child being once made clean it is not necessary that it should have an entire bath daily. Its nates and other parts in the neighbourhood should be bathed often enough to keep them clean, even if it be with every change of napkin; but to strip it, and in a cold day and in a chilly room to torment the little shivering child for a wash, according to an established daily rule, is simply a matter of cruelty.

One point you should give positive instructions upon: that is, the necessity for drying the skin of the child thoroughly before being dressed. A good rubbing with the hand, after the rubbing with the towel, is agreeable to the child. A properly dried skin is more likely to escape the sore and cracked condition that young children are apt to suffer from. This cannot be prevented so well by the flesh-powder, the burned flour, or the powdered starch with which nurses are often so particular to dust the child. Indeed, you will find that these applications frequently become acid, and increase or even produce the troubles which they are intended to obviate.

The child should be warmly and in every way comfortably dressed. The still adherent umbilical cord should be sufficiently covered to prevent its soiling the clothing, and as a matter of cleanliness should be made short; if it is not tied before the pulsations in it have ceased, there will be no risk of hemorrhage from its cut extremity. I never would cut the cord till all pulsation in it was stopped. The open condition of its vessels is a safety-tube for the lungs and heart behind. Having cut it, there is no need of the huge wad of cotton lamp-wicking often wound about it. Indeed, if there were no ligature applied, it is very seldom that any dangerous bleeding would occur. The cord should be short, the ligature small, the covering ample; and if the latter become offensive in a day or two it should be removed.

The first article of clothing put on is usually a flannel or knit swathe or belly-band. It is a very common mistake of nurses to put this on very tight, to prevent, as they say, "rupture of the navel," or to give the child's bowels support. It is as bad as tight lacing in the adult, or worse than that; organs are com-

pressed which require the utmost liberty; the action of the lungs, and consequently of the heart, is interfered with; the child cannot nurse, and you will occasionally be called in to see a "blue baby," not from organic trouble, not from an open valve, but blue and suffocating from compression, that might almost as well be about the neck; and when you get to the house you will find perhaps a little half-suffocated child, whining or rather moaning, too weak and too much straitened to cry. The herb teas and the spiced waters administered by the nurse have done it no service; but the taking out of half a dozen pins from the belly-band stops the moaning, restores the colour, and the child can both feed and sleep. Prevention is better and easier than cure. Strings on the belly-band are better than pins, if either be used; but the best band requires neither, being broad, thick, loose, and elastic, woven or knit of good woollen yarn.

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Case of Sterility from Antelexion of the Uterus, and Constriction of the Internal Os Uteri, Cured.

Dr. HEYWOOD SMITH, in an article on this subject (*British Med. Journal*, July 3, 1875), states that of all the causes of sterility depending on malposition of the uterus, that of antelexion is the most frequent. Other malpositions of the uterus, except marked retroversion, leave the cervix uteri depending into the posterior original *cul-de-sac* in the dorsal decubitus; but in acute (I here use the word acute with regard to the angle, not time) antelexion, the os uteri is lifted out of the posterior *cul-de-sac*, and placed in a position unfavourable for the imbibition of the semen. Antelexion, dysmenorrhœa, and sterility are three conditions so frequently associated, that, when a patient comes complaining of dysmenorrhœa, and is also barren, a vaginal examination more often reveals antelexion than any other condition. And here it may be noticed that it is the dysmenorrhœa that causes the patient to seek for advice. Among the applicants for relief at hospitals, pain is that for which medical advice is generally sought, seldom barrenness. The latter is either considered a blessing or women give themselves up to their fate, never for a moment supposing that such a condition is remediable; whereas among the upper classes, when property or name is at stake, medical men are more frequently consulted for relief from barrenness; and in such cases, pain not necessarily being an element of complaint, the sterility may be found to depend on many causes other than flexion. It is therefore, perhaps, more among the poorer classes that favourable results, as far as sterility is concerned, may be looked for from operation and treatment for the cure of antelexion, and for the relief of obstructive dysmenorrhœa.

E. S., aged 29, married six years, became an out-patient at the Hospital for Women, February 20, 1871. The catamenia commenced at the age of 18; they were regular, with some pain generally before the flow. The passage of a thick sound before the period lessened the pain. She was admitted into the hospital on July 3, 1871. The uterus was normal in size; a thick sound could be passed after some gradual pressure, and the constriction held the sound rather firmly. On July 13, Dr. Protheroe Smith's uterine dilator was used to half an inch. On the 17th the dilator was used to three-fourths of an inch, and the constriction at the internal os divided bilaterally with a straight knife, as well as the external os slightly, and a spring metallic (Greenhalgh's) stem introduced. On the 19th the stem was extended half its length, with some forcing pains, and was replaced. On the 23d the patient was free from pain. A slight blood-stained discharge continued. On the 26th the stem was removed; and on July 31st the patient was discharged.

In April of the following year (1872), she was seen again. The external os was divided a little more freely, and the spring stem again introduced. It remained in altogether nearly three weeks. The patient continued under observation from that time, the thick sound being occasionally passed until conception took place, after the catamenia of November 13, 1873; and she was delivered of a living female child on August 31, 1874.

The above case is given in order to encourage practitioners not to lose

sight of a case after operation for dilatation of stricture of the internal os, because pregnancy does not immediately follow, but to persevere by the occasional passage of a thick sound, to maintain the cervical canal in a state of sufficient patency.

Moreover, it often happens that, for some time after forcible dilatation, there may exist some chronic irritation of the cervical mucous membrane with or without granular inflammation of the labia uteri, which, giving rise to leucorrhœa of some form or other, may hinder impregnation. And here it may be well to insist on the necessity of not trusting to dilatation alone, whether by tents or by the introduction of graduated sounds, to enlarge the cervical canal. For if dilatation alone be had recourse to, its action is only temporary, for the uterine fibres are thereby merely stretched, as India-rubber might be, and, on the stretching force being intermitted, the cervix returns to its usual condition.

The dilatation must be associated with, and made subsequent to, incision of the canal. After incision of the cervical canal from within, which need not be extensive, dilatation then continues the incision with a slight rupture, and, this being kept from closing, the dilatation remains permanent. Many failures of this treatment are due to the external os being too freely divided, and being thereby rendered too patent; the act of imbibition is generally interfered with, if not altogether prevented. The object to be gained is slightly to enlarge the cervical canal, and, at the same time, to destroy the orifice of the uterus.

Stoltz's Operation for Cystocele.

We recently saw Dr. HEYWOOD SMITH operate, at the Hospital for Women, on a case of cystocele; and at the suggestion of Professor Stoltz, lately of Strasburg, and now of Nancy, performed his (Professor's Stoltz's) operation for the relief of this deformity. The method consists in removing a circular piece of mucous membrane about the size of a five-shilling piece, and, when bleeding is checked, in passing a silk suture around the bared surface, about a quarter of an inch from its margin, in the same manner as is done in making an ordinary calico bag. On drawing the two ends together the edges of the wound are approximated, and the calibre of the vagina much diminished in length and circumference.

The after-treatment resembles that of other plastic vaginal operations. The result was very satisfactory, the prolapse of the uterus being overcome, as its cervix was retained in a pouch above the narrowed vaginal surface. The woman was middle-aged.

We draw attention to this operation, not only because of its success, but also because we have not been able to find any account of it in any works on gynecological surgery that we have read.—*Brit. and For. Medico-Chir. Review*, July, 1875.

Emphysematous Cysts of the Vaginal Mucous Membrane.

These crepitating tumours have been observed by Prof. Braun and by Winkel in the vagina, but Professor K. Schroeder was the first to discover emphysematous cysts in the vaginal mucous membrane; he removed two small tumours from this membrane, and by opening them under water ascertained that they contained a gas. In *Schmidt's Jahrb.* Dr. Kormann states his belief that these tumours are follicular cysts from whose serous contents gas has developed.—*Brit. and For. Medico-Chir. Review*, July, 1875.

The Diagnosis of Ovarian Cysts and the Indications for their Treatment.

Dr. RHEINSTÄDTER, of Cologne (*Berl. Klin. Woch.*, May 31, 1875), thus reduces to formulæ his views of the indications that can be drawn from the fluid obtained by puncture from suspected tumours. 1. The presence of paralbumen does not at all prove the existence of a hydrovarium. 2. From its

absence we cannot argue with certainty the non-existence of cystic disease of the ovary. 3. There is great probability of a hydrovarium, if we find paralbumen abundant, with a viscid condition of the fluid, like barley-water, and with an abundant deposit of cellular detritus, and large round cells that are swollen or undergoing fatty degeneration. 4. The presence of well-formed, nucleated cells of cylindrical epithelium collected in groups or rows speaks positively for hydrovarium, especially when this microscopic investigation agrees with the gross appearances and the chemical constitution of the fluid. Dr. Rheinstaedter lays down the following as the *indications* for treatment. The danger of the operation always stands in direct relation to the danger of the disease itself, and this sometimes gives little trouble for many years, and is even sometimes spontaneously cured. A woman, then, with a moderately large ovarian cyst which is stationary, and occasions no special difficulty, should not be operated on unless she urgently desires it. An expectant treatment should be adopted, including general hygienic measures, the avoidance of all causes of sexual irritation or excitement, the wearing of a body bandage, and careful attention to any complications. The patient should not marry, because of the danger of pregnancy as a complication. If, however, the cysts grow rapidly, so as to interfere with the functions of the body, and occasion loss of strength and severe neuralgic pain, extirpation is indicated. There are also certain circumstances, such as hemorrhages into the cyst threatening life, that call for immediate extirpation, as do also suppuration or ulceration of the cyst, perforation followed by peritonitis, or symptoms of incarceration of the bowel in pseudo-membranous bands. Puncture, either with or without the subsequent injection of iodine, is now generally rejected as a radical mode of treatment. It is uncertain, because there may be more than one cyst; it may cause circumscribed peritonitis, and adhesions which will complicate an ovariectomy when it has to be performed. Puncture with drainage from the abdominal walls is generally rejected, because the sac cannot be completely emptied of its ichorous contents. Puncture through the vagina, on the other hand, is regarded favourably in case of small cysts firmly attached in the pelvis, and it can be combined with drainage and the washing out of the cyst with medicated fluids, a mode of treatment which may be adopted even in the case of large cysts, and they can be reached in this way, if ovariectomy is refused. We should endeavour to persuade the patient to the latter, however. For purposes of diagnosis, however, puncture can and should be employed in almost all cases, either through the vagina or abdomen, according to the accessibility of the tumour. Puncture may also serve as a palliative in cases where the tumour cannot be removed on account of adhesions, or where there is the complication of pregnancy occasioning pressure symptoms, where the internal organs require prompt relief. The contraindications of ovariectomy are pointed out as above. It may, however, be indicated sometimes in pregnancy, when the symptoms due to pressure are urgent and cannot be relieved by puncture, or where there has occurred rupture of the cysts. In such cases, it is preferable to either artificial abortion or artificial premature delivery. Ovariectomy is also contraindicated in the presence of serious disease of internal organs which threatens to end fatally; also in cystic carcinoma.—*Medical Record*, July 24, 1875.

Dermoid Cyst of the Ovary.

M. TERRIER, in *Bulletin Gén. de Thérap.*, March 15, 1875, narrates the case of a patient who came under his care for a large tumour occupying the right iliac fossa, and presenting all the characters of an ovarian cyst.

An exploratory puncture revealed the existence, in this tumour, of epithelial cells, of hair, and of a thin grayish-white liquid. An operation was decided on, and was executed without difficulty, the results being favourable. The temperature never exceeded 100.5° F. Without appreciable cause the urine became retained at the end of five days. [Retention of urine is not uncommon after ovarian abdominal section, and it is the best practice to draw off the urine, and spare the patient the discomfort and straining which often accompany voluntary micturition in such cases.]

Microscopic examination of the sac showed that it presented, on its internal aspect, the appearance of skin. In fact, hair, fatty granules, sudoriferous glands, etc., were found.—*Brit. and For. Medico-Chir. Review*, July, 1875.

On Serous Ovarian Cysts.

Dr. PANAS read a paper on this subject at a recent meeting of the Académie de Médecine, and drew the following conclusions, which are contained in *Le Mouvement Médical*:—

1. That among the cysts called ovarian there is a class of unilocular cysts containing a special fluid, the treatment of which is as simple as it is certain in its results.

2. The characters of the cystic fluid are, complete absence of viscosity, perfect diaphaneity (with occasional exceptions), poverty in proteinous material (modified albumen), and its relative richness in alkaline salts, principally chloride of sodium. Slightly or not at all precipitated by heat and nitric acid, the liquid in question is precipitated by alcohol. In this respect this fluid bears a certain analogy to that found in the spermatie cysts of men, as we may be convinced by comparison of the two fluids.

3. We are at present ignorant as to whether the point of origin of these cysts is actually in the ovary, or is not rather in the parovarium (body of Rosenmüller).

4. The treatment of these cysts is still more simple than that suggested by Boinet, who proposed puncture by means of a trocar, followed by injection of iodine. A simple puncture by the trocar is sufficient to bring about a cure, by removing the fluid completely or even partially.

5. By this process not only is all danger avoided, but even the slightest pain to the patient. In a word, the treatment of these cysts is easier than that of simple or spermatie hydrocele in men, which requires, almost always, the subsequent employment of caustic or strongly irritating injections.

We need scarcely add that, both for patient and surgeon, Dr. Panas's paper is a most important one. We should be very glad to know if British or American experience corroborates the views set forth in it. At present we are under the impression that our experience of tapping, even in such cases, is not by any means so favourable, as regards cure, as that which Dr. Panas seems to have experienced.—*Brit. and For. Medico-Chir. Review*, July, 1875.

Treatment of Fibrous Tumours of the Uterus by Ergot.

Dr. W. H. BYFORD, of Chicago, analyzes (*Medical Examiner*, July 1, 1875) one hundred and three cases, the histories of which he has obtained from journals and correspondents, answers the question, whether ergot will effect a cure of fibrous tumours of the uterus, conclusively, as he thinks, in the affirmative. Twenty-three cases out of the whole number are reported cured; in thirty-eight more the tumours were diminished in size, and the hemorrhage and other disagreeable symptoms removed; nineteen of the remainder were benefited by the relief of the hemorrhages and leucorrhœal discharges, while the size and other conditions of the tumours were unchanged. Of the total number, only twenty-one entirely resisted treatment. This shows results decidedly favourable in eighty-two of the one hundred and three cases. We may still further appreciate the favourable effects of the treatment, by the consideration that in twenty-one cases it was suspended, which is as great a number as resisted treatment. It is a noticeable fact that some of the cases in which the treatment was suspended, were very much benefited by it. The great obstacle to arriving at accurate results, has been the difficulty in carrying out the treatment. Not much uniformity has been observed in the manner of using the ergot. Some recommend and use it hypodermically only, while others administer it hypodermically, internally by the stomach, and in the form of suppositories in the vagina and rectum. The principal objections to the use of the hypodermic method are, the pain inflicted by the needle, and the inflammation and suppuration which ensue in a large proportion of cases. On this account

many patients who began treatment refused to continue it, and their cases were abandoned. Where there has not been too much exhaustion, or too great gastric irritability, ergot has been given internally with beneficial results in a majority of instances, while in a few it seemed to have no influence whatever, where marked benefit had been observed when it was given hypodermically.

Observation, Dr. Byford thinks, seems to show that a fibrous tumour of the uterus may be affected by ergot in three ways:—

1st. It is gradually disintegrated and absorbed. In this way it disappears without any violent or disagreeable symptoms.

2d. Its nutrition is so interrupted as to produce a rapid destruction of its vitality; and hence decomposition within the capsule and a semi-putrid mass expelled. This process is accompanied with evidences of inflammation of the uterus and toxæmia, more or less grave, according to the size of the tumour, the length of time between the commencement of decomposition and the expulsion of the tumour, and the vital resistance of the patient.

3d. The tumour in nearly its original condition is totally or partially expelled from the cavity of the uterus, attended with varying degrees of inversion of the organ. In this condition it becomes amenable to surgical processes for completing its removal.

On the Use of Salicylic Acid in Obstetric and Gynæcological Practice.

Professor CREDE gives a short note (*Archiv für Gynäk.*, Bd. vii., Heft 3) on the use of salicylic acid in gynæcological practice. He has employed it for the last six months, on the recommendation of Prof. Kolbe, instead of carbolic acid, as a disinfectant for the hands, as a vaginal injection in puerperal women, and for sprinkling over puerperal ulcers, etc. The strength of the solution is from 1 in 300 to 1 in 900, or as a powder mixed with starch, 1 in 5, or it may be used as salicylic-acid wool. Most favourable results have followed its employment, and Prof. Crede desires strongly to recommend its use in midwifery practice.—*Obstet. Journ. of Great Britain*, July, 1875.

Medical Jurisprudence and Toxicology.

A Case of Poisoning by Oil of Wintergreen.

Dr. ALLAN McLANE HAMILTON, of New York, reports (*New York Medical Journal*, June, 1875) the following case of this:—

"I was called, during the afternoon of February 9, to see a patient who had accidentally poisoned herself. An hour before my being sent for, she had poured a quantity of oil of wintergreen, about half an ounce, into a wine-glass, and after swallowing a half-ounce of cod-liver oil, which she had been in the habit of taking daily for some months, drank the wintergreen she had prepared. She had been directed by some friend to use this substance to disguise the taste of the oil, and was entirely ignorant of its properties.

"An hour elapsed before I saw her, during which time she complained of dizziness and drowsiness, and, not thinking these symptoms were indicative of anything wrong, nothing was done by her mother and sister, who were with her, until marked delirium was observed, when it flashed across their minds that she had poisoned herself. An emetic (sulphate of zinc, ten grains) was procured from the nearest druggist and administered. I saw her shortly after the emetic had been given, and found her vomiting freely. The fluid vomited was coated with a film of the oil of wintergreen, which gave forth its characteristic odour, and contained numerous shreds of mucous membrane, undoubtedly from the fauces, œsophagus, and stomach. She was talking lightly, and

was not unconscious. Her head was very hot, and the temporal arteries and veins were distended, the former pulsating strongly. Her pupils were contracted, and her eyes were exceedingly bright. The extremities were cold, particularly the feet. Her respiration was quick and laboured, and she was restless and uneasy, moving from one side of the bed to the other. From her mouth poured a large quantity of saliva, so much as to attract the special attention of those around her. She complained of the intense cerebral pain and 'noise in the ears,' which she compared to the 'buzzing of bees.' She also complained of disturbed vision. Forty grains of the sodic bromide in a large quantity of water was given, but she instantly threw it up. Ice and wet cloths were applied to the head. As the emetic had done its work thoroughly, I did not repeat it, nor use the stomach-pump. She did not complain of any pain that would naturally be supposed to exist with the gastritis. She only spoke of a slight feeling of warmth. I next administered an ounce of pure glycerine, which was retained. The cerebral pain lasting, I applied mustard-plasters to the calves, hot bottles to the feet, and rubbed the body with alcohol. The pain was severe just below the occiput, and she complained of a tense feeling of the skin of the head and face. The pupils were contracted, and afterward dilated. She had hallucinations of hearing, and spoke of the 'ringing of bells.' Hallucinations of vision were also present. The heads of those persons about her were twice their usual size, she said. A half-hour after my first seeing her she showed an irresistible desire to sleep. All the ordinary means used in narcotic poisoning were brought to play. Slapping the face, cold douches of ice-water, and diluted ammonia were powerless. I directed that she should have coffee, and nearly four ounces of *café noir* were given. This acted beneficially, but only for a short time. I had fortunately taken my faradic battery with me, as I always do in such cases, and it was the work of a moment to attach the pole-cords. One pole was placed over the epigastrium and the other over the fourth cervical vertebra, and a brisk and strong current transmitted. The fork of the instrument (one of the Galvano-Faradic Co.'s two-cell batteries) was lowered so that slow intermissions were obtained. This agent was sufficient to keep her awake when all the others had failed, but it was just possible to prevent her from passing into a state of coma. In fifteen minutes more coffee was given, and the lower pole placed over the apex of the heart. As I feared the battery would not hold out, I sent to my office, which was near the patient's house, for a large Bunsen cell, but happily it was not needed, for the suspension of a few minutes, a period sufficient for changing, would have proved fatal. The battery was applied for two hours and a half, and then I deemed it safe to stop. The coffee was kept up, however, and by the strenuous efforts of her family she was kept awake till midnight, when I allowed her to fall asleep; she needed no invitation, but sank into a profound sleep, and awoke in the morning. During the night there were many startings and tremors of the whole body. The secretion of saliva continued uninterruptedly till the next afternoon, and the hallucinations were present in a slight degree. She found the floor remarkably unsteady, as is the case with sea-sick people, and the walls occasionally threatened to fall upon her. Milk and glycerine were given, the latter combined with the subcarbonate of bismuth, but this latter nauseated her so that she was obliged to dispense with it, and take pure glycerine; at the same time she took five drops of tincture of belladonna.

"A peculiar feature of the condition was a hemiparesis of the left side. There was notable loss of power of the left hand. During the attack there was an extreme irritability of the nervous system. If spoken to, she would start violently, just as one does in sleep when suddenly awakened. At these times she was almost maniacal as far as expression was concerned. Her face was very much swollen.

"For several days she has been gradually improving, and now (nearly two weeks after the poisoning) she is convalescing. Her abnormality of vision continues. There are blurring and slight hallucinations occasionally. I am unable with the ophthalmoscope to see any changes at the fundus. The hemiparesis is gone to a great degree.

"The peculiarity of this case is the almost entire absence of gastric symptoms. The pain was never intense, and is only produced now by the swallowing of hard substances; there was no purging at any time. The head-symptoms are unusual, particularly those subsequent to the first prostration. The hemiparesis and spasms are also unique symptoms that indicate the powerful influence of this poison upon the nervous system.

"The literature of this branch of toxicology is meagre in the extreme. With the exception of cases mentioned in Beck's *Medical Jurisprudence* and Stillé's *Materia Medica*, I am unable to find anything relating to poisoning by the *oleum gaultheriæ*."

—

On the Antagonism between Strychnia and Monobromide of Camphor.

Dr. VALENTI Y VIVO has made a series of researches on the supposed antagonism between these two substances; and has arrived at the conclusion that monobromide of camphor may be considered as an antidote for strychnia. According to Dr. Valenti, the following conclusions are well established (*Siglo Medico*, April 18, 1875).

1. Twelve dogs, after taking a fatal dose of strychnia, were saved by the use of bromide of camphor. The experiments were practised in a satisfactory manner, with crucial tests.

2. The tetanic convulsions produced by strychnia may be reduced in force and frequency by the use of bromide. The action of the antidote is rapid and sure.

3. The hypothenic action of the bromide mitigates the reflex activity of the poison. The tonic convulsions are converted into clonic.

4. The physiological antagonism is comparatively limited. A strong dose of bromide of camphor is necessary to antagonize the effects of strychnia.

5. The bromide acts on the sympathetic nerve; this is demonstrated by the myosis and the cardiac paralysis which were observed after its administration.

6. After an overdose of bromine, the united effects of the poison and the antidote produce death by syncope; when death takes place during the strychnism and without the antidote, cardiac impulses are observed *post-mortem*; when it takes place after and through the use of bromide, cardiac impulses are never observed.

7. The experiments show that it is preferable to introduce the bromide by gastric ingestion, and in small and repeated doses. The subcutaneous method, employed in some experiments, has not given satisfactory results.

Dr. Valenti points out the importance of this antagonism in practical medicine. He thinks bromide of camphor may be used with advantage in cases of poisoning by strychnia, in quantity varying from four to six grammes, given in small doses.

[Dr. Valenti's experiments, if correct, show us a new antidote which may prove useful in therapeutics. Considered from a physiological point of view, this antagonism presents a great analogy with the antagonism observed by Dr. Hughes Bennett between chloral and strychnia ("Report of the Committee of the British Medical Association"). It may be remembered that Dr. Bennett's conclusions were as follows: "Chloral-hydrate mitigates the effects of a fatal dose of strychnia, by depressing the excess of reflex activity excited by that substance; while strychnia mitigates the effect of a fatal dose of chloral by rousing the action of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral-hydrate on the brain."—A. LUTAUD, M.D.]—*London Med. Record*, June 16, 1875.

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(For List of Contents see last page.)

SEPTEMBER, 1875.

Anatomy and Physiology.

On some Bursæ Mucosæ corresponding to the Trachea, Larynx, and certain Adjacent Parts.

Prof. LUIGI CALORI describes in the *Memorie dell' Accademia delle Scienze dell' Istituto di Bologna* (series iii., vol. v., 1874) certain synovial sheaths which he has found within the thorax.

One form of bursa is described as lying between the aortic arch and the lower extremity of the trachea; and the author terms it *aortico-tracheal*. It is situated behind that portion of the arch of the aorta from which the three principal arterial trunks arise. It is rather large, reaching about as high as the corresponding portion of the arch of the aorta, and being as wide as the lower end of the trachea. It is so firmly united to the aortic arch that it cannot be separated; it is less adherent to the trachea, from which it is easily stripped off; and is enveloped in abundant loose connective tissue. In front of this bursa Dr. Calori has sometimes found a second—an arrangement analogous to the prepatellar bursa. In some rare instances, above the aortico-tracheal bursa, towards the left side, is another small bursa corresponding to the left common carotid artery. Dr. Calori observes that, when the pericardium is prolonged behind the aortic arch, especially towards the left, the aortico-tracheal bursa mucosa is smaller. The bursa was met with in thirteen out of forty bodies. Dr. Calori regards it as facilitating the movement of the aortic arch on the trachea.

The second bursa mucosa is situated between the trachea and the isthmus of the thyroid body, and is met with a little more frequently than the aortico-tracheal bursa. It is found immediately below the isthmus of the thyroid body, and insinuates itself somewhat between that isthmus and the trachea, and sometimes ascends nearly to the upper margin of the isthmus. It is covered anteriorly by loose connective tissue. Its union with the corresponding tracheal rings and with the posterior aspect of the isthmus is close. It varies in size; but its transverse diameter is generally a little below, and its vertical a little above, one-third of an inch. It is usually single; but in one case, in which the isthmus was incomplete, it was double; the two bursæ lay side by side, separated in the middle line by a septum. Dr. Calori purposes to call this bursa the *thyro-tracheal*. Its evident function is to diminish the friction between the trachea and the thyroid isthmus.

The third bursa lies between the crico-thyroid muscle and the thyroid gland, and is also in contact with the upper rings of the trachea. It may be called *crico-thyro-thyroid*. It is found on both sides, and does not belong to the isthmus, but to the lateral lobes of the gland. It is very thin where it covers the external surface of the crico-thyroid muscle; but becomes somewhat thicker where it covers the cricoid ring, the upper ring of the trachea, and the corresponding portion of the internal surface of the lateral lobe of the thyroid gland. Superiorly and internally it is in relation with a branch of the superior thyroid artery, from which the crico-thyroid artery proceeds. It serves to remove the slight difficulty which the supraposition of the thyroid gland would place in the way of the free action of the crico-thyroid muscle.

In some cases the bursæ are represented merely by loose and rather soft connective tissue. They present the ordinary structure of bursæ mucosæ or synovial sheaths.

The paper is illustrated by five lithographic figures.—*London Med. Record*, June 9, 1875.

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Bilateral Irritation of the Pneumogastrics in Man.

An experiment, so nearly attended with serious consequences that it is scarcely likely to be repeated, was tried last April by Dr. THANHOFFER, of Budapest, and consisted in the simultaneous compression of both pneumogastric nerves in a medical student named Ignacz von Kovacs. The young man, who was a willing martyr in the cause of science, had already undergone a number of experiments in which the vagus on the right side of the neck was compressed by himself, at the inner edge of the sterno-mastoid muscle, and on a level with the external angle of the thyroid cartilage, by means of the nail of the incurved index finger of the left hand. The result almost entirely confirmed the conclusions which Ludwig and others have drawn from their experiments on animals—namely, that irritation of the vagus diminishes the frequency of the pulse, and prolongs the duration of each individual beat. Dr. Thanhoffer found, however, one point of difference—namely, that there was not, as had been observed in dogs, a marked diminution of the blood-pressure as indicated by the pulse-tracing.

The bilateral compression of the vagi was made by Kovacs with the thumb and forefinger of the left hand; the forefinger being on the right, and the thumb on the left nerve. The first few attempts were apparently unsuccessful, probably because both nerves were not exactly hit; but the last time Dr. Thanhoffer was startled by finding that his pupil returned no answer to his questions, but kept convulsively pressing his neck, while his eyes were starting and glassy. With great difficulty his hand was at last wrenched forcibly from his neck, with the fingers still bent as when they were compressing the nerves; and even then his consciousness did not immediately return, and it was not till he was lifted from his seat that he began to come gradually to himself; but it was some time before he could stand. He afterward stated that his sensations at this time were as if his head was bound with iron rings, and as if there was an intense pressure on the whole surface of his body. Soon after the experiment he had a rigor, and began to be feverish; his tongue was furred, and his appetite gone, and he had a feeling of nausea during the rest of the day. Happily he was able to sleep well at night, and only suffered from severe headache the next morning. Since then he has been quite well. The pulse phenomena observed during the compression of the pneumogastrics were, as shown by a sphygmograph on Kovacs' right wrist, as follows: From the moment when pressure began, the line traced by the lever sank continuously for sixty-seven seconds, then rose again very slightly, and then stood quite still, in consequence of the arrest of the heart's movements. The pulse, which had beaten regularly eighty a minute before the experiment, was seventy-four two hours after, and continued so until one o'clock in the afternoon, the beats being irregular. Immediately after the experiment, Kovacs' pulse and heart's impulse were strong, and the heart's sounds clear, but toneless. The whole details of this remarkable experiment, with the sphygmographic tracings, will be published at the completion of Dr. Thanhoffer's researches. The preliminary notice to which we are indebted for the above description, will be found in the *Centralblatt* for May 29.—*Med. Times and Gaz.*, July 10, 1875.

Materia Medica and Therapeutics.

The Continued and the Frequent Dose.

Dr. EDWARD H. CLARKE, late Professor of Materia Medica in Harvard University, calls attention to this subject in an interesting article published in the *Boston Medical and Surgical Journal*, for August 5, 1875.

Doses of medicines he appropriately considers under four distinct heads or classes, namely: 1, single doses; 2, continued doses; 3, frequent doses; 4, toxicological doses. The first and last of these, or the single and the toxic dose, are the doses given in treatises on materia medica, and are recognized as representing the therapeutic and poisonous action of any given drug. It is unnecessary to dwell upon them, for they are universally understood. But the bare statement of what is the legitimate single or average toxicological dose of an article like opium, for instance, gives no adequate or intelligent notion of what the continued or frequent dose of the same drug is; nor does it give any adequate or intelligent notion of the physiological action and consequent therapeutical power of its continued or its frequent dose.

Let us consider first the *continued dose*. By this is meant the administration of a drug in such a way that the elimination of one dose shall not be completed before the absorption of the following dose has commenced.

The single dose is an appropriate quantity given once or oftener, without keeping it continually in the blood. The therapeutical value of these doses and the physiological difference between them are of great importance.

Let us look at some illustrations of this difference and value.

Ammonia and its salts "readily enter the blood, and must to some extent increase its alkaline reaction; but from their volatility and high diffusion power they are rapidly eliminated, and hence their action on the blood and the organs of the body is a very transient one." The elimination of a single dose of carbonate of ammonia is practically completed in an hour or two after it is administered. Its physiological action is correctly stated by the United States Dispensatory to be "stimulant, diaphoretic, antispasmodic, powerfully antacid, and in large doses emetic." In consequence of this action, it is largely used in depressed conditions of the vital powers. This is the well-known action of a single dose or of a few doses given near together, after which the system is freed by elimination from the drug. No change is produced in the quality of the blood. If a continued dose of ammonia is given, that is, if it is given so often, say every hour for several days, that the blood is continuously charged with it, a very different set of phenomena from those just described appear. "When ammonia or its carbonate is administered"—in this way—"for some time to animals or man, the effect is to modify the blood-corpuscles; they become easily soluble, crenate at the edge, many-sided, colorless, transparent, collapsed, and loosely agglomerated, but not in rolls; and the blood when drawn, or after death, is absolutely fluid or loosely coagulated."¹ These phenomena were observed by Dr. B. W. Richardson, of London. They closely resemble the changes in the blood which occur in patients suffering from typhoid and typhus fevers. Hence it appears that the single dose of ammonia produces rapid and effectual stimulation of the heart, while the continued dose of the same article alters the quality of the blood, and notably of the blood-corpuscles. The single dose exerts a therapeutic, the continued dose a toxic action on the economy. It is unnecessary in this presence to dwell upon the obvious therapeutic inferences that follow from these data, at least so far as ammonia is concerned.

Gallic acid is another illustration of the difference between the single and the continued dose. This acid is rapidly eliminated. Physiologists tell us that a couple of hours after it has been swallowed, it has practically left the system, by way of the kidneys, to such an extent that it exerts no appreciable

¹ Practical Therapeutics. By Edward John Waring. American edition, p. 61.

action upon the blood after that length of time. Gallic acid has a well-deserved reputation for controlling certain forms of hemorrhage. Suppose it is given in single doses of ten grains, more or less, three times a day, which Dr. Clarke apprehends is the usual method of administration, the blood will be subjected to the restraining action of the acid only about six hours out of the twenty-four; not long enough to hold steadily in check a hemorrhagic disposition. Suppose, now, that instead of the single, the continued dose is administered, by which the ratio of elimination to absorption is constantly regarded, and the blood kept continuously charged with gallic acid; the result will be a continuous action upon the blood, not an intermittent one. It is needless to point out the fact that continuity of action is very sure to give rise to phenomena that will not follow intermittence.

No drug exhibits in a more striking light both the physiological and the therapeutical differences between single and continued doses than alcohol. The partial, confused, and incomplete recognition of these differences by various observers and experimenters, who have examined and described the physiological action of alcohol, goes a great way toward explaining the various and often discordant results at which they have arrived. We learn from the experiments of Messrs. Lallemand, Perrin, and Duroy, as well as from those of Drs. Anstie, Parkes, Smith, Binz, and others, that the disappearance of a single dose of alcohol from the system, either by elimination from it or combustion in it, or by both processes, practically takes place in about six or eight hours after its ingestion. Traces of alcohol may be found in the blood and in the excreta for a much longer period than this; but so much of it leaves the system within eight hours, that what remains of any single dose beyond this length of time has no real physiological value. A person who takes a dose of alcohol, in the shape of wine or other alcoholic liquid, once in each twenty-four hours, subjects his organism to the action of alcohol about one-third of that time, and leaves it free from that action about two-thirds of the same period. A person who takes what is known in non-scientific language as an "eye-opener" in the morning, wine with his dinner or lunch, a digester in the afternoon, and a "night-cap" on retiring, takes the continued dose of alcohol. His blood is continuously charged with alcohol to a greater or less degree. There are phthisical patients who imitate this method of ingesting alcohol, and take a daily continued dose of it, keeping their blood charged with it more than two-thirds of the time.

Alcohol taken in a single daily dose, by which the blood is practically free from it more than two-thirds of the time, and alcohol taken in a daily continued dose, by which the blood is practically charged with it more than two-thirds of the time, are substantially different drugs, which produce different physiological phenomena, and are or should be employed for different therapeutical ends. This is not the time, nor does it fall within the scope of this paper, to describe these differences in detail. It is sufficient for my purpose to indicate their existence as illustrations of the single and the continued dose.

The bromide of potassium affords another and most pertinent illustration of the different physiological and therapeutical action which the single and the continued dose of an article may produce. Dr. Clarke pointed out these differences in a comparatively recent monograph on the physiological and therapeutical action of the bromide of potassium.¹ Illustrations of single and continued doses, and of the therapeutical importance of recognizing them as factors in the treatment of disease, might be multiplied indefinitely; but enough has been said to call attention to them and to emphasize their importance. It was impossible to recognize and use them as separate therapeutic factors till physiological observation and experiment had discovered the time and the method of the absorption and elimination of drugs, and the ratio of the former to the latter; nor can the practitioner apply them clinically till he knows, at least with approximate accuracy, the way every article he uses gets into and out of

¹ The Physiological and Therapeutical Action of the Bromide of Potassium and Bromide of Ammonia. By Edward H. Clarke, M.D., and Robert Amory, M.D.

the system, the length of time it remains in the system, and its behaviour while there.

The administration of medicines to the sick, without regard to the different and often opposite results, physiological or therapeutical, that follow the single and the continued dose, is both unsatisfactory and unscientific. It is unsatisfactory, because it fails to secure the legitimate action of medicinal agents. It is unscientific, because it ignores some of the most important physiological conditions upon which scientific therapeutics rest. The time has come for the clinician to recognize and use these and other phenomena of the *modus operandi* of drugs which the physiologist has discovered and whose accuracy he has demonstrated.

Secondly, the *frequent dose* is the giving of a medicine so as to impart to the organism some one or more of its actions, whether primary or secondary, with great rapidity. It is hitting blow after blow in quick succession, upon some organ which it is desirable to affect, in accordance with evident indications, with rapidity and power. It is usually, perhaps always, some action of a drug, manifested soon after its absorption, which it is desirable to obtain, and which can be obtained by the frequent dose. Obviously the administration of the frequent dose is limited by the physiological behaviour of the system under its influence. After a certain period the frequent dose is equivalent to a full single dose or to a toxic one.

The action of opium almost immediately after absorption illustrates the frequent dose. One of the earliest physiological actions of opium after its ingestion, rarely after subcutaneous injection, is stimulation of the nervous system, and of the circulation. This is fully recognized by obstetricians, who advise its exhibition as one means of controlling post-partum hemorrhage. Stimulation is a primary effect of opium that soon passes over, the length of time varying with the quantity given and with the idiosyncrasies of patients, into an opposite condition. The administration of an appropriate quantity of opium every five, ten, or fifteen minutes, that is, the frequent dose of it, will prolong and enhance its primary stimulant action. How desirable it sometimes is to prolong the primary stimulating action of this invaluable agent, Dr. Clarke need not remind those who hear him.

The physiological action of aconite upon the human economy illustrates the same principle. Fleming's admirable observations upon aconite have taught us the powerful sedative influence that five drops of the tincture of the root exert upon the system. If, instead of five drops in a single dose, half a drop is given every half-hour ten times, or one drop every hour five times, a different physiological and consequently a different therapeutical result is attained from that of the single dose of five drops. In this case a less depressing sedative action is obtained by the frequent than by the single dose.

The object of this paper will be attained if it succeeds in bringing clearly before the profession the great therapeutical power that results from the physiological adaptation of doses to the processes of absorption and elimination, and especially if it succeeds in calling attention to the power of the continued dose.

Jaborandi.

The *Gazetta Med. Lombardia*, for July 17, contains a paper read at the Lombardy Institute by Dr. AMBROSOLI, in which he gives an account of a second series of trials which he has made of the properties of jaborandi in more than fifty hospital and private patients. In a former paper he had stated that he had found this substance almost inert; but this turns out now to have arisen from his trials having been made with an article which, although obtained from the Central Pharmacy at Paris, was not the genuine one. From the trials he has made with a different supply, he comes to the following conclusions:—

1. Jaborandi is a plant of a bright green colour, of a warm, aromatic taste, and of a sharp, not unpleasant odour, resembling that of the leaves of the laurel. A native of Brazil, it belongs to the family of the *Rutaceæ*; and, according to James, it was in the last century employed in the treatment of various

diseases, the nature of which, however, is not indicated. The celebrated botanist, Prof. Garovaglio, who has examined some specimens submitted to him by the director of the hospital at Pavia, maintains that the name of "jaborandi" given to this plant is inexact, since it is bestowed on a great number of varieties, each of which has its special name. It is, therefore, of importance to establish which of these it is, the leaves of which possess sudorific and sialagogic properties; for it is because the variety of the plant which really possesses active properties has not been specified, that it has come to pass that different experimenters have not obtained the same results. 2. An infusion of five or six grammes in water, drunk either cold or tepid, the patient being in bed and warmly covered up, produces, in from fifteen to twenty minutes, and rarely after one or two hours, a profuse sweating over the whole body, which is prolonged from four to fourteen hours, and which may be renewed on successive days without an additional dose having been taken. 3. Besides the sweating, there generally occurs, half an hour after taking the jaborandi, an abundant viscous, ropy salivation, which, by reason of the large quantity of liquid with which it fills the mouth, impedes speech. The quantity of saliva secreted varies from one to four glasses (*bicchieri*); and during its secretion the mucous membrane of the mouth is a little hyperæmic, and the salivary glands are somewhat swollen. 4. On examination of the saliva and the sweat induced by jaborandi, urea, but not uric acid, is found in notable quantities. In some individuals abundant and prolonged salivation has been produced, as also copious bronchial secretion. 5. When the sweating and salivation commence appearing, the pulse is increased by some beats, the temperature rises some tenths of a degree, and the respirations are more frequent. After one or two hours from the commencement of the administration, the pulse and respiration diminish in frequency, and the temperature may become lowered by even four degrees (centigrade). These facts predicate that we have to do with a powerful modifier of febrile action—one that is, perhaps, more prompt in its action than quinine and digitalis. 6. Jaborandi is destined to speedily occupy an eminent position among the sudorifics, sialagogues, and moderators of febrile action; and many useful indications for its employment will present themselves.—*Med. Times and Gaz.*, July 24, 1875.

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Action of Aconitina upon the Heart.

LEWIN, operating on frogs, finds that aconitina, in doses of .0025 to .0015 gramme, lowers the frequency of the cardiac beats; and this occurs most rapidly when injected into the veins, more slowly when subcutaneously injected, and most slowly when injected into the stomach. The duration of the action varies from one to two hours. It is succeeded by a period of increased frequency of the heart's beats, which is soon followed by irregularity, and, finally, ends in arrest in diastole. At the close of almost all the experiments an arrhythmia of the cardiac actions occurred, due to the rapid pulsation of the auricles or to their beating alone. The peripheral nerves, when the poison was administered in moderate doses, exhibited considerable diminution of excitability, and with larger doses paralysis occurred. The heart after death did not always respond to electrical excitation. In experiments on warm-blooded animals, he found that the first symptom observable was marked dyspnoea, and this augmented till death occurred; but by the application of artificial respiration for nine hours and a half continuously he was able to save the life of a rabbit to which a fatal dose had been given. The dyspnoea is due to the direct action of the poison on the respiratory centre in the medulla oblongata. In regard to the heart, he obtained results of a double nature, partly conformable to those produced by digitalis (corresponding therefore to primary irritation and subsequent paralysis of the vagus), partly consisting in a diminution of the force of the heart and a rapid sinking of the frequency of the pulse. The cause of this was the action of the poison on the ganglionic centres in the heart, at one time with integrity of the vagi, and then with paralysis of the vagi.—*Lancet*, July 17, 1875.

Damiana—a powerful Aphrodisiac.

Dr. J. J. CALDWELL, of Baltimore, Maryland, invited the attention of the Medical and Surgical Society of Baltimore (*Virginia Med. Monthly*, May, 1875) to a plant—"new to the medical world—called in the Indian tongue 'Damiana' (a powerful aphrodisiac), and found on the western borders of Mexico.

"In giving the history of this wonderful and beautiful little plant, I regret to say that I cannot present, as yet, its technical name or true classification; but I am very well satisfied, from quite an extended experience with the tincture and extract of this plant, of its powerful influence over the urino-genital organs of both sexes, as in moderate doses it increases the flow of urine as well as the sexual appetite, as my cases reported in this article will show. But the following extracts from letters from one of our consuls in Mexico will give as much of its history as I have been able thus far to obtain.

"This plant does not seem to flourish among the mountains or very far from the sea, and derives its aromatic properties from a rocky soil, which, during some months of the year, presents a very uninviting appearance to the florist or botanist; but after the annual rain commences (about July), then that which was so forbidding before bursts, another Cinderella, into a temporary but enchanted life. Among the glowing colours and delicious odours which charm the traveller, he discovers the dark, green leaves and smallest white blossoms of the damiana, modestly claiming a share of his divided and aroused attention; and as you 'pansy and on the stranger gaze,' it is observed that a species of gum, of a peculiar fragrance, seems to cover the stems. This is the time when, in accordance with the experience of the people of the country, it ought to be picked, to possess its best and full virtue. At that period it is easier to collect an aroba (25 pounds) than it is now (January) to get a pound.

"You will observe that what I send you is only the new sprouts and leaves of the plant. Some people gather it with large weights of wood, but that is only a dead investment. It is said that the root possesses the same virtues as the leaf. There are two classes of damiana. The best bears a white blossom, and has a small leaf; the other has a yellow blossom and a large leaf, and is much more easily gathered, but is every way inferior in aroma and strength.'

"CASE I.—Mr. H., of Carroll County, Md., aged 70, called, June, 1874, to be treated for impotency. As he had just married his fourth wife, he manifested great anxiety concerning his weakened powers. I advised him to try the benefit of Faradic current through the genito-sacral plexus. His occupation being such as to require almost constant travel, he was unable to follow my orders in this particular. I then placed him upon the strong tincture of damiana, in tablespoonful doses three or four times a day, which resulted in a marked improvement in his procreative powers, so that after a few weeks' continued use of the remedy he reported himself 'well able to enjoy sexual congress, of course observing a moderation due in a man of his age.'

"CASE II.—In October, 1874, Mr. M., of Baltimore, informed me that his wife, after a severe illness, with mental trouble, lost all her sexual appetite, her age being 40. Her health being well re-established, I resorted to this nervine tonic, with very happy results. Her husband, being robust and vigorous, as a matter of experiment, used the same remedy in tablespoonful doses twice a day, resulting in excessive and almost ungovernable sexual desire; and this has proven true in several other cases of vigorous constitution upon which I have experimented.

"CASE III.—Col. L., of Baltimore, aged 55, called December, 1874, suffering from general debility of the urino-genital organs, attributed to the excessive use of alcohol. He, too, was placed upon the tincture of damiana, and followed it up faithfully for a month or six weeks, with the very best results, greatly increasing the secretion of his urine, besides improving his sexual ability.

"CASE IV.—Mr. K. has been under my care for over a year, suffering from stricture of the urethra, with extreme irritation of the bladder (sympathetic).

The stricture was treated by galvanic electrolysis successfully, by placing an elastic insulated steel-pointed catheter, attached to the negative pole of the galvanic battery, applying the same with gentle pressure, while the positive pole, a zinc plate four inches square, covered with a napkin saturated with salt water, was placed over the sacral spine—these applications made on alternate days, with fifteen minutes application each. After the stricture had been absorbed and removed by this mode of treatment, the irritability of the parts yielded to the use of the tincture of damiana, in moderate doses twice a day.

“The foregoing is a report of a few typical cases that have come under my observation, and are given as an introduction of this new remedy, and for what they are worth, solely with the view of calling the attention of the profession to the virtues of this pretty little plant, culled from the prolific soil of the wilds of Old Mexico, a field no doubt teeming with a wealth of unknown medicines waiting for the progress of our noble and searching science to penetrate and grasp her hidden treasures.

“I would recommend the tincture and fluid ext. of damiana. I prefer the fluid extract, as it is less bulky, more positive in its effects, and more reliable and uniform, as proven in cases now under my care. Indeed, this remedy seems to have a specific effect upon all of the organs of the pelvis, giving increased tone and activity to all of the secretions in that vicinity.”

Dr. CHAS. McQUESTIN corroborates (*Pacific Med. and Surg. Journ.*, July, 1875) the above statements of Dr. Caldwell. He says he has used extensively damiana in Mexico. In cases of sexual debility or lethargy he finds the results of this treatment to be “all that could be desired.”

Medicine.

Pernicious Progressive Anæmia.

At the Medical Clinic at Basle, Prof. IMMERMAN has observed two cases of very intense anæmia, which in their symptoms, course, and *post-mortem* lesions, closely resembled those described by Biermer under the above title, and the five cases described by Jusserow under the name of “rapid anæmia of pregnancy.” Two further cases have been reported by Perroud. In one of Immermann’s cases, fatty degeneration of the heart was found. The symptoms comprise an increasing paleness of the integument, progressive feebleness, cardiac palpitation, and rapid death. The distinguishing features are: 1. Its appearance without ascertainable cause: 2. Its extreme degree, and the occurrence of certain alterations in the circulatory centres; 3. The unaccountable presence of fever; and 4. Its fatal course, resisting all therapeutic measures. According to Biermer and Jusserow, in the Canton of Zurich it is especially observed in women between twenty and forty years of age; pregnancy favours its development, as also do poor habitations, bad nourishment, diarrhœa, and flooding. The pathological changes are chiefly in the composition of the blood. During the course of the affection there is oligocythemia, and toward the end hydræmia; in several cases there was leucocythemia. Biermer has found partial degeneration of the cardiac muscular fibres, especially of the papillary muscles, and degeneration of the muscular tunic of the arteries. Ponfick has found the same lesions, and also degeneration of the renal epithelium of the hepatic cells and utricular glands of stomach. The physical signs are: a rough bellows-murmur at the base of the heart and in the great vessels, with marked tendency to hemorrhages from the skin, nose, gums, brain, and retina. The fever is an important and constant symptom; it has no special type and is seldom intense; it obviously accompanies and aggravates the anæmia, but the latter is too intense to be considered as its cause, and furthermore it does

not appear until the anæmia has advanced to a certain degree. Immermann looks upon pregnancy as the coefficient cause, and recommends the induction of premature labour.—*New York Med. Journ.*, Aug. 1875, from *Lyon Médicale*, No. 16, 1875.

A Typhoid Epidemic, apparently arising from Infected Milk.

DR. ALEXANDER OGSTON, of Aberdeen, reports (*Glasgow Med. Journal*, July, 1875) another epidemic of typhoid fever spread through an infected milk supply.

"Jane R., aged 17 years, a native of Ross-shire, was employed as a domestic servant in a house in North Charlotte Street, Aberdeen, during September and October, 1874. The inmates of the house were all healthy.

"In the beginning of November she left that house, and resided with and nursed Mrs. C., No. 26 Union Row, Aberdeen. This Mrs. C. was suffering from a low feverish attack, lasting eight weeks, but had no diarrhœa or abdominal pains. Jane R. attended to her for three weeks, at the end of which time she was complaining of 'feverish cold.'

"On the 26th November she left Mrs. C., and went to be a domestic servant at Whitemyres, a country house three or four miles from Aberdeen. Within a few days she was there taken seriously ill, and on the 8th December she came into Aberdeen for treatment. The interest of the case hinges upon her condition at Whitemyres, but no further information could be obtained concerning that. Hence we shall follow out her symptoms and history after she left Whitemyres, and, aided by the information thus obtained, return to Whitemyres further on.

"On the evening of the 8th December, the day of her leaving Whitemyres, she went to her sister's house in Aberdeen. She remained there forty-five hours in a delirious, almost unconscious state, with dry, brown, and cracked tongue, and *passing frequent and abundant peasoup stools*. Her sister sent for a medical man, who found her too confused to give a proper account of herself, and, stating she had *typhus* fever, advised her removal to the infirmary.

"She was taken to the infirmary on the 10th December, and her disease was there entered on her card as *typhus fever*. Neither her temperature nor notes of her case were taken, she was delirious the whole time, was said to have had *typhus spots*, but *typhoid (peasoup) stools*, and died on the 17th December, 1874. There was no *post-mortem* examination.

"To return to Whitemyres. If, as seems highly probable, Jane R. was, at the time of her residence there, suffering from typhoid diarrhœa, the only place she could have frequented was the privy of the establishment, a small building standing by itself, in which the urine and fæces of the frequenters dropped into a small ashpit about a yard square and one foot deep. This ashpit stood on the top of a bank three feet from a stream of running water, and drained into the stream by a short partly-piped, partly-built drain.

"The stream of running water was a roadside stream, about six inches wide and two inches deep, arising from a spring a mile further up country, but receiving no sewer above this. It was also fed by the drains of the surrounding arable land, and after passing Whitemyres received, half a mile further down stream, a half choked drain from a house (and ground soaked with sewage) where no illness had existed. What it received from this drain was very insignificant in quantity. Continuing its course, the stream ran at the roadside past the gate of the dairy farm of the Oldmill Reformatory School. At this place, less than a mile from Whitemyres, the stream was dammed up, and allowed to flow off through a spout.

"The dairy farm of the Oldmill Reformatory School supplies milk to its own institution, and to a large number of the inhabitants of Aberdeen. The dairy arrangements were perfect, excepting the water supply. The water came from two sources, a spring well, pure and unimpeachable, and the roadside spout, whose origin we have traced above. The roadside water was used for scullery purposes, and the spring water, which had to be carried by hand from a distance of a quarter of a mile, was used for cleaning the vessels employed for storing and transporting the milk. Both these waters, when being

used, were heated in one single fixed boiler, used indifferently for each, and without assuming intentional negligence, it was readily conceivable that some of the roadside water might have been left in the boiler, or otherwise have got mixed with that used for cleaning the milk vessels. The water, though heated, was not necessarily boiled before being used. The vessels for transporting the milk were tinned flagons, with narrow necks; the larger were dried out after being washed, the smaller did not admit the hand, could not be dried out, and after being washed each still contained a teaspoonful of water. This peculiarity may serve to explain the fact that the inmates of the institution suffered so little, as the small flagons were used for cream or special milk, and therefore went almost entirely to supply the town consumers.

"Shortly after Jane R. left Whitemyres, an epidemic of typhoid fever broke out in some of the healthiest and best quarters of Aberdeen, and a case or two simultaneously occurred among the officials of the reformatory. The cases did not occur in any particular district, but attacked families, or members of a family, here and there in the wealthiest quarters of the town. The children were the greatest sufferers. The cases were mostly in the private practice of the talented medical attendant of the reformatory, who, knowing the excellence of the reformatory milk, had been in the habit of recommending it to his patients. He soon discovered that the disease was, almost without exception, limited to the families supplied with the reformatory milk, and that, of all those so supplied, a very large proportion had the disease. By the direction of the managers of the reformatory, I was associated with him in investigating the cause of the epidemic, and after a most careful inquiry, extending to every conceivable channel of infection, we could come to no other conclusion than that Jane R. had been the cause of the epidemic."

Modus Operandi of the Yellow Fever Poison.

Dr. GEORGE M. STERNBERG, Assistant Surgeon U. S. A., after examining the various theories of the causation of yellow fever, concludes (*New Orleans Med. and Surg. Journ.*, July, 1875), that the evidence is sufficiently convincing (a) as to the implication of the sympathetic nervous system in yellow fever poisoning, (b) but we have no evidence that blood changes occur prior to the implication of the sympathetic which marks the outbreak of the disease.

(c) The action of the poison upon the sympathetic seems to be a paralyzing one, causing an arrest of function, and producing phenomena similar to those following division of the sympathetic in any part of the body.

(d) Whether the blood is also primarily affected by the poison, or whether the changes in it are all secondary to arrest of the processes of nutrition, secretion, and excretion, may be considered a question still *sub judice*.

The fact, however, that in cases which terminate fatally within a day or two, the blood is found to be fluid, the red corpuscles more or less disorganized, and the hæmatin to have stained the tissues of the body, makes it probable that the poison also acts directly upon the blood. *But, that this action is of the nature of a fermentation, there is not the least evidence.*

He suggests the hypodermic injection of ergotine and galvanization of the sympathetic as remedies from which we might theoretically anticipate some benefit.

Bromide of Potassium in the Treatment of Epilepsy.

Dr. J. WARBURTON BEGGIE, of Edinburgh, in the Address on Medicine at the recent meeting of the British Medical Association (*British Med. Journal*, August 7, 1875), stated that "his experience of the use of bromide of potassium in epilepsy has been of the most encouraging description. I have repeatedly witnessed cures in the strictest sense result from its employment. Let me briefly refer to one such.

S. A., a bookbinder, aged 50, had for twenty years been subject to severe fits, occurring irregularly by night and by day, often attended by biting of the

tongue. The usual interval between the fits had been a fortnight, and on no occasion had a longer period than six weeks elapsed. In January, 1870, this patient, whose mental capacity had at that time become considerably enfeebled, so much so as to make it necessary for him to give up his business, began the bromide of potassium, and continued it for eighteen months without any pause. The dose never exceeded twenty grains thrice daily. The result of this treatment was an entire cessation of the epilepsy; there has been no recurrence of the disease. His mental vigor has returned. He long ago resumed his occupation, and has since been busily engaged in it without any interruption.

"I could multiply instances of this kind; and so, I believe, could many practitioners who, in the treatment of epilepsy with bromide of potassium, have been mindful to adhere to the rule upon which Dr. Reynolds insists, that the remedy "should not be discontinued in the treatment of a case of epilepsy because of its apparent failure; but that the dose should be gradually increased, and the exhibition of the drug most patiently carried on for a period of many months, or even years."

Intermittent Spinal Paralysis.

In an inaugural dissertation (Halle, 1874), H. HARTWIG describes the following case. A sugar baker aged 23, who was exposed to great heat and sudden changes of temperature while very lightly clothed, had suffered in his eighteenth year for four or five weeks from an attack of tertian ague, from which he recovered. One day he perceived a numbness in his legs, which rapidly attacked his arms also, and finally led to complete paralysis of the muscles of the neck. Speech, deglutition, and respiration were somewhat impeded; the muscles of the eye were unaffected, as were also the alvine and urinary excretions, and sensation. After twenty-four hours, there was a remission of the symptoms; first the neck began to become movable, then the fingers, arms, body, and finally the legs. All this took place in half an hour, and was followed by an increase of perspiration. During the next twenty-four hours, the patient remained free from paralysis, but was dull; after which, the above described symptoms returned. The brain was always free; the cervical portion, especially the upper, was not always equally affected; the movements of the neck were often free; and difficulty in deglutition and respiration, inequality of the pupils, and myosis, were frequently present. The phrenic nerve was always unaffected. When there was not complete paralysis, the affected limbs were generally stiff, and there was contraction of the predominating groups of muscles; when complete paralysis was present, the muscles were soft and flabby. Electro-muscular irritability was almost completely absent during the paralysis, and the violence of the muscles varied. Under the use of quinine, the patient's condition was on several occasions quickly improved, but he was not cured. He was under observation for more than six months. The author believes that the case was one of masked intermittent, and that the phenomena were due to hyperæmia of the cord and occasional increase of serous exudation. —*British Med. Journal*, August 7, 1875, from *Centralblatt für die Medicin Wissenschaft.*, June 5th, 1875.

Thoracentesis in the Pneumothorax incident to Empyema.

Dr. AUSTIN FLINT, in a recently published clinical lecture on Pneumothorax (*Series of American Clinical Lectures*, vol. i, No. 3, New York, 1875), says: "Puncturing the chest to give exit either to air, or air and liquid, whenever the suffering from dyspnœa, due to dilatation, is great, is undoubtedly judicious as a merely palliative measure. This I have done repeatedly. But the inquiry has arisen in my mind whether it may not be possible, in some rare cases, to accomplish something beyond a temporary relief, by making a free opening into the chest, as in cases of pneumothorax incident to empyema. Let us suppose a case of pneumothorax from the bursting of a tuberculous cavity, the amount of phthisis small, the disease non-progressive, and all the circumstances favourable for arrest and recovery,

aside from the perforation of lung. There are such cases, albeit they are infrequent. May we not hope that by a free incision the cure of pneumothorax is possible in these cases? The answer to this question must be based on clinical facts which are yet to be acquired. Meanwhile, I can see no objection to making trial of this measure. Pneumothorax occurring as a complication of phthisis is almost hopeless. In the majority of cases this complication destroys life within a short period. We may say that the prognosis involves only a question of tolerance. It is probable that a free opening into the chest will not shorten the duration of life, and it certainly affords great relief. It is therefore warrantable. I have recently in two instances acted in accordance with this view. In a hospital case I had a free incision made, after aspiration had been once employed, and the pleural cavity was daily injected. This case offered nothing in the way of a favourable prognosis, as the patient was greatly reduced before the occurrence of pneumothorax. He died twelve days after the operation; but he was free from suffering, the death being by asthenia. The other case seemed to offer a better prospect, as the patient was able to be up and out of doors when the perforation occurred. I saw him seven days after its occurrence. The affected side of the chest was largely dilated, and the suffering from dyspnoea was very great, obliging him to keep constantly the sitting posture. I suggested a free incision, which was made at once, and the patient remained afterward free from suffering; but death took place in eleven days. I need not say that these two cases do not give encouragement for an expectation of permanent benefit from the operation. I feel sure, however, that in neither case was life shortened, if it were not prolonged, and it certainly contributed to euthanasia. I cite the cases simply with reference to the warrantableness of the operation. It remains to be seen hereafter if, in any instances, it may do more than secure relief and prolong life."¹

— On a Case of Unusually Rapid Action of the Heart.

Cases of unusually rapid action of the heart are still so rare, and their pathology is so obscure, that little apology seems necessary for bringing a small contribution to the subject under the notice of the profession. The instance of this curious condition which Dr. ROBERT FARQUHARSON, Lecturer on Materia Medica at St. Mary's Medical School, London, describes (*British Med. Journal*, June 12, 1875) occurred several years ago in military practice, and he is induced to place it on record, because, as we shall presently see, the material necessary for the construction of any reasonable theory is at present wonderfully scanty in proportion to the interest of the many questions involved.

Private J. Fox, aged 28, service eight years, was admitted into the regimental hospital of the Coldstream Guards, on January 2d, 1864. Reference to his medical history-sheet did not show any previous entry; but, two years after enlistment, and consequently prior to the issue of these returns, he was fourteen days under treatment for acute rheumatism, of which no special record has been preserved. During some time past he had been short-winded on exertion, and had gone upstairs with difficulty; and, twelve months ago, he had a slight attack of palpitation, but no recurrence of this symptom was experienced until January 1st, in the forenoon, when he was suddenly and violently attacked on his return from a field-day. His heart beat very heavily all night, and this morning he felt so ill and unfit for duty, that he at once reported himself sick. On admission, it was noted "that he looked pale and

¹ The "Transactions of the Society of Alumni of the College of Physicians and Surgeons," published in October, 1842, contains the report, by my colleague, Professor Lewis A. Sayre, of a case of empyema, in which a free incision into the chest was followed by recovery. In connection with that case, thirty-two years ago, Professor Sayre raised the inquiry, "in the empyema of a tuberculous patient, from the rupture of an abscess into the pleura, would we not be justified in tapping as soon as discovered?"

anxious; the breathing was much hurried; the pulse was full, bounding, and thrilling, 116; and a loud double *bruit* was heard at the base of the heart and down the sternum; heart's impulse forcible and heaving, and dulness increased." A belladonna plaster was applied to the side, and a mixture, containing nitrate of potash and tincture of veratria, ordered to be taken every four hours.

From this date he took various remedies at various times; but gradual increase of palpitation led, on February 11th, to his being placed on fifteen minims of tincture of digitalis, with an equal quantity of tincture of iron, thrice a day; and next day the pulse had fallen to 80. Things went on satisfactorily until March 8th, when, during the usual morning visit, my attention was directed to the very alarming symptoms which the patient presented, and which seemed to threaten a rapidly fatal result. He was sitting up in bed, breathing with great effort; his countenance pale and bedewed with clammy sweat; and, on placing my finger on his pulse, I was able, although with difficulty, to count 216 pulsations in the minute. On listening to the heart itself, the cardiac systoles followed one another with so great rapidity, that no *bruit* could be made out; but the first sound was distinctly and clearly audible. Whilst feeling his pulse at 11.45, the heart suddenly stopped for several beats, then gave three or four forcible and irregular pulsations, and, on resuming its action, was found to have fallen to 104. He now expressed himself as feeling much relieved; the countenance lost its ghastly pallor, and he was able to tell me that the palpitation first began at 9 A. M., and that he had suffered in a similar way, but much less severely, several times since admission. Next day he had another, but much slighter, attack, and, three days later, he was invalided the service.

It will be remembered that, in 1867, Dr. Cotton published in the *British Medical Journal* a case of this nature; and, as this was probably the first on record, he may justly lay claim to priority in bringing the subject under the notice of the profession. His patient was a middle-aged man, who was seized on two occasions, at an interval of three years, with dyspnoea and faintness, and a pulse-rate of 230, recovery taking place under treatment, one result of which was the expulsion of a tapeworm. The pulse here was regular, but uncountable at the wrist, and no indication of valvular disease could be detected.

Sir T. Watson, in a letter to Dr. Cotton, refers to a case in which the pulse on four occasions ran up to 216, with great anxiety and general distress passing off suddenly, in two or three days. In the fourth attack, the patient died, and a large flabby heart was the only morbid appearance observed. Dr. Bowles of Folkestone records, in the *British Medical Journal* of July 20th, 1867, the cases of two ladies, in the first of which the surprising pulse-rate of 250 was reached, and in the second over 200. A case of Dr. Broadbent's is reported about the same time, where 168 was the number attained; and, in July, 1869, Dr. Cotton sums up the evidence, and records another instance where the heart's action exceeded 200 beats.

In a recent number of the *Lancet* (February 6th, 1875), Dr. Brisbane has published a case of mitral disease, where the pulse suddenly mounted up to 185, and continued at that elevation during several days; and Dr. Willett has mentioned to me an unpublished case, which first came under his notice five years ago, where a middle-aged woman was seized with most extremely rapid and irregular action of the heart after a sudden shock. Dr. Richardson, who saw her at this time, tells me that there was great dyspnoea and distress, and that the pulse ranged from 180 to 200, being hardly countable; and, in a letter received from Dr. Willett, describing the present condition of this patient, he says the pulse is uncountable and irregular, as well as intermitting. It stops suddenly and at irregular intervals, a bad attack lasting some days; but there is no indication of valvular disease.

This, then, is a tolerably accurate list of the cases of abnormally rapid cardiac action recorded in recent literature; and, on studying them attentively, with the view of discovering any marked differences or points of similarity between them, I find they may be, in the first place, divided into two classes:

1. Those in which valvular disease existed; and 2. Those in which the palpitation might fairly be assumed to be only functional in character. To the first belong Dr. Brisbane's case and my own, where mitral and aortic disease were respectively diagnosed; but, in the other six, no common explanation throws any light on the symptoms, two of the eight patients being the subjects of albuminuria, three being rheumatic and dyspeptic, two the subjects of dilated and gradually weakened hearts, and one having been proved by the results of treatment to have acted the part of host to a large tapeworm.

Another element of distinction is found in this: that, in a certain number of cases, the heart resumed its normal functions suddenly, whilst in others the unusually rapid action became gradually diminished. Accident enabled me to advance perhaps a step beyond other observers, by affording me the opportunity of feeling the pulse at the precise moment when the change took place; for it will be remembered that, whilst my finger was actually on my patient's wrist, the number of pulsations suddenly fell from 210 to 104, the heart recovering itself after a somewhat lengthened pause and several irregular contractions.

Having now summed up the principal facts connected with our subject, we find ourselves in a position to go a step further, and inquire in how far physiology can assist us in unravelling the difficulties which naturally arise; and let us first consider the explanations which have been brought forward by those who have previously written on the subject. Dr. Cotton is inclined to believe that in such cases the heart is led to contract too rapidly, on account of a condition of over-sensitiveness, such as we find in various nervous affections or in simple nervous palpitation; or, on the other hand, the blood may be irritating in quality, as in gout and acid dyspepsia, and thus tend to induce more hurried and irregular contraction of the cardiac cavities.

Dr. Handfield Jones, who has considered this question in his interesting work on *Functional Nervous Disorders*, carries the explanation somewhat further by ascribing the phenomena to neurotic influence. He writes: "The associated symptoms point very decidedly to an implication of the vagi in the disorder; in five, the breathing was notably affected, and in two the stomach was deranged. My notion is, that the pathema is a paralytic neurosis of the vagi, or of their cardiac branches, essentially similar to a common neuralgia, *e. g.*, sciatica."

Now, we know that division of the pneumogastrics, by removing their inhibitory or restraining influence, permits the sympathetic ganglia to run riot, and that enormously increased rapidity of the heart's action is the result; and Dr. Jones thus places the very reasonable theory before us that, from the influence of some weakening or paralyzing cause on the vagi or their centre in the cerebrum, the rein is partially removed, and the unrestrained vaso-motor ganglia, if we may use such an unscientific expression, take the bit between their teeth and bolt. And the analogy of physiological therapeutics also holds good here; for experiment has shown that the injection of atropine directly into an animal's veins causes an excessive rise in the number of cardiac pulsations, from its paralyzing power over the inhibitory branches of the pneumogastric distributed within the heart-muscle. Digitalis, on the other hand, produces a precisely opposite effect, for it causes a much lowered rate of pulse, even after section of the vagi, by acting on their cardiac nerves and the minute ganglia with which they are connected. Various other influences brought to bear on the innervation of the heart also induce increased rapidity of pulse; thus tubercular meningitis, in its later stages, when effusion at the base of the brain may be supposed to act on the centre whence the vagi spring, is characterized by an exceedingly quick pulse, and in children's disease generally we find an excessive excitability of the action of the heart. Thus, in pneumonia and in other of the inflammatory affections of early life, I have not unfrequently counted the pulse up to 200, even in cases which were not otherwise characterized by severe symptoms, but in which the mobility of constitution common to this period of life tends to the expenditure of nerve-force in various directions to the weakening and exhaustion of the great nerve-centres. We are also all familiar with the remarkable elevation of pulse following rapid

exercise in ill-prepared persons; a brisk run, a stiff pull up a hill, will often run the cardiac pulsations up to what might well be considered a dangerous degree, and I have thus seen in my own case, during a severe ascent in Switzerland, undertaken under unfavourable conditions, the pulse beat at the rate of nearly 200.

In addition to these arguments in favour of the view that exhaustion of a certain nerve-force may cause well-marked symptoms by enabling a distinct but usually subordinate function to come into play, we may appeal to the results of treatment. The successful issue of most of the cases I have mentioned was in all probability due to the administration of tonic and supporting drugs, among which digitalis always held a high place. We all know the property which this valuable medicine has in regulating and supporting cardiac contraction by its primary action on the inhibitory centres, as well as its secondary effect on the muscular structures of the heart itself. But, in this connection, my case affords a notable contrast to the others; for it was whilst the patient had been under the full influence of digitalis for twenty-five days that the violent palpitation came on. The remedy was here prescribed under the old-fashioned idea of reducing the labouring action of an enlarged and hypertrophied heart, and before modern research had shown that its use in such a case was not only unnecessary, but possibly injurious. The first result of its employment was to reduce the frequency of the pulse, and its second I fully believe to have been paralysis of the terminal cardiac filaments of the vagi, from that exhaustion which usually follows undue stimulation, and hence the remarkably rapid rate to which the sympathetic urged on the muscular contractions; and this is quite borne out by what is observed on experiment; for Nothnagel lays down the primary action of digitalis to be that of retarding the pulse, whilst larger and longer continued doses inevitably bring about a secondary stage of excitement and great rapidity. In Fox, therefore, it is probable that some temporary disorder of the secretions may have interfered with the due elimination of the drug, and so permitted that saturation of the system which is generally spoken of as indicating a so-called correlative effect. But it may be reasonably asked, Could not an exciting or stimulating influence directed towards the sympathetic nerve-supply of the heart explain more directly the phenomena of rapid pulse? This may be so, and Dr. Richardson was inclined to adopt such a view in Dr. Willett's case, where he believed the sudden emotional shock to have been the factor in enabling the accelerating action temporarily to overcome the controlling power of the vagi. The only other point specially deserving of notice in my case was the observation that, during the rapid action of the heart, no trace of morbid *bruits* could be detected; and this was, no doubt, due to the feeble contraction of the cardiac muscular tissue not emptying the ventricle sufficiently fully or forcibly to bring about the physical conditions necessary for the production of murmur. And it was interesting, at the same time, to hear the clearness and distinctness of the first sound when unmasked by systolic *bruit*.

Remarkable Retardation of Pulse.

Mr. PUGIN THORNTON presented at a late meeting of the Clinical Society of London (*Med. Times and Gaz.*, March 20, 1875) a case in which the pulse had at one time made only 16 beats in the minute, and which for some weeks did not reach higher than 24 per minute. He showed a sphygmographic tracing of it when at 20 beats. The patient was a young married woman, upon whom, in 1872, Mr. Thornton had performed tracheotomy for syphilitic laryngitis. Her pulse at the time of the operation was making 40 pulsations, and it was not until six weeks later, when she was re-admitted into the hospital for diseases of the throat, in order to have the tracheotomy-tube removed, that the extraordinary unfrequency of her pulse was noticed. This unfrequency had been accompanied by transient attacks of an epileptiform character. It appeared that in the summer of 1870 she was first seized with these fits, which at that time happened daily for about two months, the pulse averaging about 24 pulsations per minute. At the end of the two months she completely

recovered, and remained in good health until the autumn of 1872. Mr. Thornton read an account of these attacks, which had been kindly sent to him by Dr. Ransom, of Nottingham, under whose care she had been in 1870. According to his account, a severe fit began with a sudden pallor of face, and complete loss of consciousness and motor power, the heart's action ceasing for several seconds (on one occasion, cessation of the heart's action was noted by stethoscope and watch for eighteen seconds). The respirations then became quickened and almost stertorous; the face flushed, and the eyes suffused, fixed, and turned upwards. She foamed at the mouth. After a time consciousness returned; the expression became calm, no signs of distress remained, and the intellect became clear. After recovery, the pulse returned to its normal rate of 24 beats per minute. During the latter part of the illness she had hallucinations, which, after the fits were over, she clearly recognized as having been spectral illusions. The intensity of the fits was variable; they were sometimes so frequent that she had twelve in a quarter of an hour, and so transient that she was able on recovery to take up the thread of conversation. On one occasion, forty-five were counted in one hour. They occurred equally when she was in or out of bed, asleep or awake. Mr. Thornton remarked that the woman at the present time was in good health, her pulse being constant at 48. She was still periodically obliged to take iodide of potassium to stop the recurrence of the laryngitis, which occasionally threatened. He was at a loss to account for the curious phenomena, unless that the pneumogastric nerve might be presumed to be in some way affected by the specific poison. Unfortunately, the time of the syphilitic infection was in no way clear, for Dr. Goddard, of Pentonville, and Dr. Ransom had no recollection of her suffering from any of the usual sequelæ of syphilis. In his own mind there was no doubt that the unfrequency of the pulse was to be attributed to it. The instrument by which the tracings had been taken was one manufactured by Mayer and Meltzer. A pressure of 350 grammes was used in each observation.

Mr. CALLENDER asked if in the earlier observations any notice had been taken of the frequency of the pulse. Was the unfrequency only recent, or had it occurred early in life? There were cases of extreme slowness of pulse associated with some injuries to the head; in such a case one always tried to ascertain the frequency of the pulse before the accident. In some cases of slowness of circulation, the patient seemed to suffer greatly from cold; but a patient of Mr. Callender's recently (St. Bartholomew's) had a pulse of 32 only, whilst a more robust man there could not be.

A member mentioned that in one of the earlier volumes of the *Medico-Chirurgical Transactions*, there was a case recorded in which the pulse ranged from 25 to 27. After death it was found that the foramen magnum was so contracted that it would hardly admit the tip of the little finger; and there was hypertrophy of the superior cervical ganglion of the sympathetic nerve.

Dr. SYMES THOMPSON remarked that the late Mr. Hodgson had a pulse which rarely exceeded 32; he was wont to draw especial attention to the fact that a slow pulse might exist for years without the production of any manifest symptom. He combated the notion that it meant a fatty heart. When the action was slow, any great exertion was apt to be exhausting, and exposure to cold was very hurtful.

Dr. SOUTHEY would like to ask whether Mr. Thornton had noticed that mic-turition was very frequent or the quantity of urine very large. When digitalis was used, the action of the heart being very slow, the quantity of urine was often very large, the pressure on the renal capillaries being great. A man, aged eighty, whose pulse had always been slow—usually from 18 to 20, and rarely reached 26 after exertion—had noticed the slowness for many years. Were fits associated with slow pulse? In this case the epileptic convulsions would seem to be associated with diminished supply of blood to the brain.

Mr. MAHOMED had taken sphygmographic tracings of a very slow pulse in a woman. The systole was not prolonged, but the diastole was much prolonged. Her pulse had been 65 before she was shut up in Paris during the siege, to which she attributed the change. Weakness, tendency to fainting fits, and the

slow pulse had since ensued; the fainting being, perhaps, due to emptiness of the vessels of the brain.

Dr. ARCHIBALD HEWAN mentioned his own case. Twenty years before, he had studied greatly; his pulse then was 72 in the minute. Afterwards it was found to be 55; from that point it had gradually decreased; eight years ago it was 24. Then Dr. B. Sanderson traced it with the sphygmograph. He had been abroad, never had a fit nor fainted, and could bear cold well. He had lately climbed a mountain many thousand feet high, and his pulse at the top was 40. His urine had not altered in any way; his digestion was very good, and he was in good health.

Dr. ALTHAUS said that the Emperor Napoleon the First had a slow pulse, and always felt uncomfortable, except in the excitement of battle, when it would rise to 60 in the minute.

Mr. THORNTON stated that the pulse of his patient had not before her illness been noticed to be very slow. At the time of the operation it was 40; a few weeks afterwards it was 16. There was no valvular disease in this case. He had never heard that the urine was very copious, and would judge it was not so.

Dr. A. HEWAN mentioned that he had had rheumatic fever eight years ago, when his pulse did not rise above 32. Eight weeks ago he had gout and rheumatic pains, when his pulse quickly rose to 64 and 68; and then fell slowly to 32 and 28, at which it stood at present.

A case recently brought before the Société de Biologie of Paris, by M. CORNIL (*Lancet*, June 26, 1875), affords another illustration of the phenomenon of slow pulse, which it will be remembered formed recently the subject of an interesting discussion at the Clinical Society in connection with the case related above by Mr. Pugin Thornton. The exact length of time during which M. Cornil's patient presented the slow rate of pulse is not stated in the report from which we quote (*Progrès Méd.*, June 5th), so that in some respects it cannot well be compared with the cases related at the Clinical Society. The patient was seventy-five years of age, and for four years had suffered from cough in the winter, when he was also subject to attacks of vomiting. When first seen the pulse rate was from 25 to 30 beats per minute; but on May 23d it was only 14, but perfectly regular. Respiration was unembarrassed. About every quarter of an hour there was oppressed and suspicious breathing, these attacks ending in syncope, with pallor of face, closure of lips, and convulsive movements of the arm. Each attack was preceded immediately by an intermission of the pulse, lasting some seconds. The attacks continued till death. There was found extreme and universal fatty degeneration of the heart, which was normal in size. There were also pulmonary emphysema and fatty degeneration of the pancreas.

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Hyperidrosis excited by change of Posture.

Dr. DAVID INGLIS, of Detroit, Michigan, reports (*Detroit Review of Med. and Pharm.*, August, 1875) the following very curious case.

Mrs. F., æt. 45, strongly built, generally healthy, mother of four children, youngest æt. about 8 years, gives the following history:—

Some five years ago, her health, which had previously been good, began to suffer. She had leucorrhœa, and other symptoms of uterine trouble. She was also much afflicted with pains in all parts of her body, which, from her description, seem to have been of the nature of subacute rheumatism.

After passing through the hands of various physicians, she came at last to a travelling "root doctor," who left her a large quantity of his wares, to be taken in large doses. Hereupon her pains left her, but a trouble began which continued unabated up to the time when I saw her—some six weeks since—namely, profuse perspiration, brought on nightly by lying upon her right side. This phenomenon occurs regularly every morning after a night's rest in bed, and only then, her usual habit being to turn over on to her right side, and at once a general perspiration begins, which at once ceases upon her turning back on to her left side. She can lie upon her right side during the day, or early part of the night, without perspiring. If she does not turn upon her right

side, and so secure a sweating in the morning, she feels much oppressed during the day, has a headache, and is poorly until she again has a sweat the next morning.

If, owing to other causes, the sweating is stopped, she feels the same oppression and headache, and it was upon such an occasion that I was first called to see her. Upon giving some sudorific she was soon relieved.

Further, she is in summer, during warm weather, very prone to perspire, and has every summer much annoyance from a very abundant crop of sudamina, which causes an almost intolerable itching. The sweating in winter is not accompanied with sudamina, and the perspiration has at no time any peculiar odor.

In looking over the literature of hyperidrosis, I can find no report of a similar case, although various anomalies of perspiration are mentioned. Cases are reported of very profuse perspiration coming on after eating. Another of perspirations so profuse that basins had to be placed beneath the patient to collect the moisture.

Cases of unilateral perspiration and of perspiration confined to limited portions of the skin are mentioned, but I can find no notice of a case where the sweating was general, but brought on at will by a change of posture. In regard to the pathology of these affections much remains to be learned. Anything which causes a hyperæmia of the capillaries which supply the sweat glands, seems to cause sweating. Such is the direct action of heat, of muscular exertion, and, indirectly, such hyperæmia and consequent sweating are caused by anything which relaxes the vaso-motor nerves of the part.

In this way are to be explained the action of various emotions in causing sweating. Similarly section of the sympathetic in the neck causes profuse perspiration in the parts above. Drugs, or any artificial means of causing sweating, if used to excess, have a tendency to hyperidrosis. In this case the large quantities of drugs taken five years or so ago, probably caused a relaxed state of the skin capillaries, and probably the repetition of the sweating is due to a relaxation of the vaso-motor nerves of the skin; but I find no theory to account for the relation of posture to the relaxation of the vaso-motor nerves, and therefore submit the case, hoping that some one may be able to find such a relation.

Three Cases of Dilatation of Lymphatic Radicles.

Mr. C. HANDFIELD JONES reports (*Lancet*, July 31, 1875) three cases of this.

CASE 1.—W. S—, aged nineteen, felter, admitted on January 11, 1875. Family history good; father, mother, brothers, and sisters alive and well. No history of previous illnesses. About six weeks ago he had slight catarrh and cough, and noticed a small swelling of his neck. This was soon followed by swelling of the left side of the face and of the upper part of the head and forehead. It then appeared in his hands, and afterwards in his feet and legs. He had at the same time pains in the loins, which were not much felt unless he moved about. His urine at the same time was brown and thick and very scanty, and was passed very seldom. His appetite has never failed; his bowels have been pretty regular. He does not think he has lost flesh. Is anæmic-looking, but skin of trunk and abdomen is markedly brown, except a small patch near left iliac crest, which is white, the demarcation being abrupt between the pale and brown parts. Heart sounds are healthy. No anasarca, but the abdomen is markedly dull for some extent in both flanks, in the left especially; the dullness in left is diminished when he turns on right side. Urine: sp. gr. 1030, deposits red lithates, is highly albuminous. Has simple diet—milk, beef-tea; ordered chop; and, in place of fifteen minims of ipecacuanha wine, and one ounce of citrate of potash mixture, four times a day, which he has had for two days, he is now to have solution of perchloride of iron, fifteen minims, and acetate of ammonia mixture, one ounce, three times a day, taking one drachm of compound jalap powder every morning.

Jan. 18. Legs more anasarcous, feet pit markedly; both fundi very pale, discs not well-defined; sight is good; he can read a paper.

Feb. 1. Urine pale, contains much albumen; deposits a light sediment, containing nothing definite.

18th. Urine very scanty, loaded with albumen, sp. gr. 1040; pain in loins.

19th. Left thigh and leg much swollen; the thigh measured 24 in., the right only 20 in. Pulse weak and small; vomiting; urine very scanty and turbid, turns almost solid when boiled, is thick with lithates when cool; deposits numerous slender homogeneous and granular casts, a few also containing some corpuscles.

20th. Left leg still more swollen, depending part very hard; girth of thigh $25\frac{1}{4}$ in., left calf 16 in., right calf $12\frac{1}{2}$ in. Right leg does not appear to be at all swollen. Pain is felt in left groin, not down the leg. Intellect quite clear. Urine not more than three ounces in twenty-four hours. Temperature 98.7° F.; pulse 96, weak. Has a warm pack every night.

22d. Marked dulness and absence of breathing in lower half, or rather more, of right back; a good deal of blood spit up. Scrotum very much swollen on both sides; right leg not swelled at all. Does not sweat at all in the pack; feels chilly. Urine: twenty-five ounces in twenty-four hours, sp. gr. 1040, thick with lithates. Taking, since the 19th, acetate of potash, half a drachm, in an ounce of water, three times a day, and the mixture; hot-air bath.

25th. Total urine 39 oz., of full colour, clear. A good deal more blood has been spit up. To-day the sputa are dark and muco-watery. Left thigh measures $25\frac{1}{2}$ in.; scrotum still very distended.

27th. Sweated last night very freely in the hot-air bath; the swollen leg sweated as much as the other.

March 1. Expectoration still very blood-tinged. Temperature 98° ; urine, sp. gr. 1024, very albuminous. Gallic acid ten grains, glycerine twenty minims, water one ounce, three times a day.

3d. Much blood still in expectoration; thigh measures $24\frac{1}{2}$ in.; scrotum more lax. Temperature before hot-air bath 100° , after bath lasting half an hour 100.4° . Skin of left thigh presents a great number of plexiformly arranged streaks running upwards.

11th. The streaks are now evidently channels containing fluid; they have increased in size, and occupy a considerable extent both of upper and outer part of left thigh and buttock, and also the lower and inner part of the limb for a good way above the knee; they do not extend above the line of Poupart's ligament. They contain a clear alkaline fluid, devoid of corpuscles, slightly albuminous, sp. gr. 1009. A very large amount of this fluid ran from a single needle puncture; two clean sheets were saturated, and $1\frac{1}{2}$ oz. was collected; the flow continued for some days. The expectoration on the 12th was nearly free from blood, and was less. The thigh measured 24 in., the calf 17 in.

On the 15th the total amount of urine was 47 oz. The lower right back only was dull, and a little crepitation was heard, and no other breath sound; the sputa were mucous and rusty. The dose of gallic acid was increased to twenty grains four times a day.

25th. Left thigh measured 25 in., left calf $17\frac{1}{2}$ in. The lymphatic channels at the upper and outer part of the thigh were so much enlarged that they often seemed to be on the verge of coalescing; some of them contained a red fluid. Smaller lymphatic channels were visible at the lower and fore part of left leg.

April 1. Thigh measures $26\frac{1}{2}$ in., the calf 18 in.; left side of abdomen much swelled. The lymphatic channels are very prominent, and distended on upper and outer left thigh, and some have appeared in the same part of right; many of these contain a red-tinted fluid. The channels evidently indent or groove the corium, as is well seen when they are emptied by pressure.

19th. Right leg has become swollen the last few days, and the scrotum increased; distended veins are seen on the scrotum, but none on the leg. Distended lymph channels are apparent now on upper and outer part of right thigh. Twenty grains of chlorate of potash, half a drachm of glycerine, and one ounce of water, three times a day.

23d. Fundus of both eyes pale. The urine, which on the 12th had been 20 oz., rose to 44 oz., on the 26th to 64 oz., on the 29th to 84 oz.

On May 3d the urine still contained much albumen. There was much fluid in the abdomen.

24th. Leg is diminishing in size; is bandaged. His general condition is good.

31st. Urine very slightly albuminous, sp. gr. 1025; leg much smaller.

June 7. The leg is now nearly normal, save for the remains of the lymph channels, which are evident as depressions or grooves in the integument. Abdomen collapsed; resonant on right side, dull on left. Is able to walk about.

10th. Came to hospital looking well, but requesting to have his chlorate of potash mixture, without which he did not feel so well.

CASE 2.—Mr. —, aged about forty-five, many years a perfect hypochondriac. Always thin, but lately has emaciated greatly; has got cough and expectoration, and his lungs present unmistakable indications of softening tubercle; soft femoral vein swollen, firm, and tender; both feet and legs œdematous, with erysipelatous redness on left leg. On both feet, on the dorsal aspect, there are several enlarged lymphatic channels, extending from near the toes to about the ankles. These are quite like those described in Case 1. He died a few days after this note was made.

CASE 3.—R. P—, aged nineteen, builder's labourer, admitted May 19, 1875. Light hair and complexion, of slight make, hands of a dull red; a pale pressure spot is slowly effaced; he had scarlatina when a child; was not exposed to wet before his illness, but worked in a draughty place. Has felt ill three weeks; his face swelled seven days ago, and his legs and scrotum; the latter has subsided, the face continues puffed. Had sore-throat a month ago; it is not sore now. Skin moist; he perspired in a pack he had last night. Pupils very large. Vomits at times. Tongue furred, red at edges. Pulse 64; temperature 97.4°. Has pain on the right side, below liver, extending across to left. Abdomen full, dull in depending parts. Appetite good; is thirsty. Heart's sounds feeble; no bruit. Left lower back dull, and breathing very defective there; but resonance and breathing are present in the upper half of back. Lower third of right back is dull, and breathing weak; but no râles are heard. Urine: sp. gr. 1030, acid, highly albuminous. There is a congenital hydrocele on the right side; it became more marked four years ago, but he has always had some slight swelling in that region, which disappeared when he lay down. Retinal veins full and dark; the ocular fundi otherwise appearing normal. Simple diet: milk and beef-tea. To take ten grains of alum, twenty grains of sulphate of magnesia, ten minims of ipecacuanha wine, and one ounce of camphor mixture, three times a day; one drachm of compound jalap powder every morning.

May 22. Urine in good quantity, dark with abundant sediment, loaded with albumen; sp. gr. 1032; deposits casts, mostly narrow and granular, or homogeneous, slender, very few are corpuscular. Pulse feeble; feels very weak. Made sick by compound jalap powder. Omit pack and powder. Urine three ounces.

31st. Urine yesterday had to be drawn off; this morning he passed it himself. Yesterday's urine is loaded with albumen, and deposits a notable sediment consisting of homogeneous casts, some narrow, others moderately wide, with abundance of medium-sized glomeruli; some casts consist of granular pigment; no blood-globules seen; ascites considerable. Temperature 97.4°; pulse 84.

On June 1st the urine was very dark, contained a large amount of blood; the corpuscles were numerous and distinct. On the 7th there was still much blood in the urine, the dropsy had increased considerably, the scrotum and prepuce were much distended. On thighs and lower abdomen there were numerous distended lymphatic channels containing a more or less red fluid. These on the 10th were noted to run down to the line of Poupart's ligament from the integument of about the lower half of the abdomen. On the 16th they were very numerous on the thighs; those on the abdomen were larger, and contained much bloody fluid, which, examined under the microscope on one occasion, exhibited multitudes of red globules. Soon after erysipelas attacked the lower abdomen, the lymphatic channels discharged a very large quantity of serous fluid, he became very prostrate, the temperature rose to 104°, and he died on the 20th. No remedies appeared to be of any avail.

Post-mortem examination.—Lower extremities anasarcaous; dilated superficial lymphatics on inner and outer side of both thighs; erysipelatous necrosis of skin of lower part of abdomen.—Thorax: Lungs non-adherent, slightly œdematous; bronchial tubes full of frothy secretion; a patch of apoplexy at base of right lung, great congestion at base of left. Heart healthy, except one or two minute patches of atheroma about aorta.—Abdomen: A large quantity of purulent-looking fluid in peritoneal cavity; under the microscope the fluid presented rather a small number of corpuscles, and those which were visible were smaller than pus-cells and less granular; some traces of peritonitis. Lymphatics well-marked in mesentery in lumbar region; mesenteric glands enlarged. Neither receptaculum chyli nor thoracic duct enlarged. Left external iliac and common iliac veins, and the right iliaes at their junction and at the entrance into the inferior cava, were plugged with old organized clot; clot of more recent formation existed in the lower part of left posterior tibial veins. Liver, spleen, pancreas normal. Kidneys extremely hyperæmic, with smooth surfaces, cortical part enlarged, pyramids dark, some whity mottling in cortex; conjoint weight eighteen ounces; supra-renal capsules congested in their medullary portion. Ileum presented solitary glands very much enlarged; the mucous membrane was hyperæmic. The lymphatic glands in the groins and about Poupart's ligament were slightly, if at all, enlarged.

Remarks.—The special symptom which characterizes these cases must be, I think, rare. I have not to my recollection met with it before. But little notice is found of it in authors. Hasse, indeed, says, when writing on septic inflammation of the lymphatics, that “during life we observe that the lymphatic glands become turgid, while the course of the lymphatic vessels is indicated by a network of flat red stripes.” The last three words convey a better notion of the appearance seen in my patients than the descriptions given by some writers of cases of cystiform or general dilatation. Wilks and Moxon do not seem to have met with the alteration in question; they only mention the occurrence of great varicose distension of the lymphatics of the thigh producing cyst-like knots, in consequence of some more or less obvious cause of obstruction. Pelters (*Schmidt's Jahrb.*, vol. cxv., p. 183) records a case of remarkable dilatation of the lymphatic glands of the right groin, small and large intestine. The glands were converted into cyst-like cavities, tensely filled with a yellow fluid, and the afferent and efferent vessels were also much dilated. The cause of the dilatation was considered to be obstruction to the circulation from valvular disease of the heart, especially mitral stenosis, and cirrhosis of the liver, producing considerable ascites. A case is reported from the clinique of Prof. Kussmaul (see *Medical Times and Gazette*, vol. ii. 1861, p. 119), where the lymphatics of the abdominal parietes were much enlarged. The patient was an old woman, who had been tapped several times for ascites depending on cirrhosis of the liver. “From the middle region of the abdomen a multitude of cord-like vessels of the thickness of quills, which looked like rows of pearls, and were much twisted and prominent, proceeded downwards towards both inguinal regions. In this course they gradually flowed into one another, and ended in a few large vessels of the thickness of the little finger, which disappeared in the inguinal region. These vessels commenced in the middle and upper part of the abdomen, in spots of different size, which were transparent, and not prominent; they were probably vessels flattened by great tension, and might easily have been confounded with the cicatrices to be found on the abdominal parietes after numerous pregnancies. These also existed in this case. The right diagnosis of these spots, which were not connected with each other, was in this case only made after the small (short?) but very wide canals had been discovered, which were filled with lymph almost to bursting. On puncturing these vessels a yellow, opalizing, neutral fluid escaped, which contained a trifling quantity of albumen, and on one occasion showed an acid reaction.” The legs were only slightly œdematous, and the lymphatic vessels of the lower extremities were not dilated. Kussmaul attributes the distension of the lymphatic vessels to the reflux of the lymph being prevented by the colossal accumulation of serum in the abdominal cavity; but he recognizes the anomaly of the lymph vessels of the lower limbs not being dilated.

The opinion of anatomists seems to be now pretty well decided that lymphatics originate in intercellular spaces, comprising under this term the spaces existing between the fasciculi of connective tissue, or between the elements of the tissues, and even the serous cavities. The lymphatic vessels are believed to open into the latter by orifices termed stomata.

Now the vessels which were so enlarged and apparent in my patients were certainly not the ordinary superficial lymphatics figured by Mascagni, for these run in the subcutaneous connective tissue beneath the corium of the skin, while those I noticed were quite superficial, and, though they grooved the corium notably, were either quite on its surface immediately beneath the epidermis, or in its more superficial layer. They appeared, in fact, to be rather dilated lymphatic radicles than actual vessels. But that they truly belonged to the lymphatic system cannot, I think, be doubted. For (1) the fluid in them was in pretty rapid motion, as shown by the quantity collected from a single puncture; (2) this fluid had quite the character of lymph; (3) the vasoid cavities, while observing a sort of plexiform arrangement, took a general direction upwards, and disappeared at the region where the superficial lymphatics pass down to join the deep—behaving, in fact, both on the surface of the abdomen and the thigh, like recognized lymphatic vessels do; (4) the venous obstruction which was present in all the cases affords a special reason for considering the fluid to be lymph, inasmuch as, the return of blood by the veins being barred, there was no other channel left for the fluid effused from the capillaries to take but the lymphatics.

But, admitting that the fluid was lymph, that the vasoid spaces containing it communicated with the lymphatics, and that venous obstruction had a very material influence in causing the formation and enlargement of these channels, I cannot but think that some other less evident cause must have been in operation. For obstruction of veins by thrombosis, or phlebitis, or pressure of tumours, is no uncommon event, and gives rise to considerable œdema, as in phlegmasia dolens, yet without any apparent distension of lymphatic channels. Perhaps, indeed, this does actually occur in all cases, or in most; but, inasmuch as the vessels affected are subcutaneous, and not supracutaneous or subepidermal, as in my cases, the alteration is not noticed. The peculiarity of my instances would then consist simply in the situation of the vessels or lymph-spaces affected by dilatation. The results of dissection in Case 3 are of great importance, as showing that pressure on the thoracic duct or enlargement of the lymph-glands may be quite absent in the condition we are considering. Conversely, it may be remarked that in the affection termed “adenia,” characterized by great hypertrophy of the lymphatic glands, there is no dilatation of the afferent or efferent vessels. Grave disease of the kidneys existed in two of my cases, but caused anasarca only in one, so that this state cannot be credited with much effect.

Kameela as a Remedy for Tapeworms.

At a meeting of the Société de Thérapeutique de Paris, as reported in *Le Lyon Médical* of May 20, 1875, M. BLONDEAU stated that he had employed with success the tincture of kameela against tapeworms. He gave a patient twenty-five grammes of the tincture in an infusion of sage, in three doses taken at an hour's interval—at nine, ten, and eleven o'clock in the forenoon. At one o'clock, without having suffered the least discomfort, the patient voided a very large tapeworm, of which the head unhappily could not be found. This *tenifuge* has the advantage that it is not disagreeable to take, that it does not produce colic, and that it does not need to be associated with any purgative.

Another article in the same journal gives “a very certain and convenient method of administering kameela.” Kameela is a red powder used in the dyeing of silks, and is obtained from the capsules of one of the Euphorbiacæ. Its employment as an anthelmintic is quite common in China. The method of exhibition, as recommended, is to give the kameela in the pulp of the tamarrind in the form of an electuary, according to the age of the patient and his

temperament, from six to twelve grammes, given in from thirty to forty grammes of the tamarind pulp. The tart taste of this pulp is agreeable to most people, and it washes down the powdered kameela, which, when taken alone, fills the mouth and throat with a disagreeable, gritty sensation. The consistence of the mass may be further diminished by the addition of the syrup of bitter orange peel, or by the juice of the citron. The electuary should be taken in the morning, on rising, and all at one time. Half an hour later one can breakfast and go about his business as usual. After a few inoffensive borborygmi several very liquid stools result from the medicine. Towards midday or evening with the last evacuation is a rounded mass more or less columnar, which contains one or more tæniæ. M. Du Plessis has employed this method in more than twenty cases, and always with success. For the bothriocephalus the cure is always radical. Four were at one time expelled by a patient, measuring in all one hundred and twenty feet. As for the tænia solium, the head usually is expelled, but it occasionally remains with some joints in the small intestines. In such a case the dose must be repeated when there is evidence that the tænia was not completely dislodged.—*Bost. Med. and Surg. Journ.*, July 8, 1875.

Congenital Deficiency of the Peritoneum resulting in Intestinal Obstruction, and simulating an Abdominal Tumour.

A paper was read on the above subject by Mr. LAWSON TAIT at a late meeting of the Royal Medical and Chirurgical Society (*Med. Times and Gaz.*, July 31, 1875). The author said that on January 21 of this year he "saw Miss M., in consultation with Dr. Hickinbotham and Mr. Pugh, of Nechells. She had been suffering for three weeks from severe symptoms of intestinal obstruction, for which no treatment gave any effectual relief. At no time had there been any symptoms of peritonitis. She was thin and of small size; the temperature was normal, and the pulse little over a hundred. There was obstinate vomiting, and slight headache. A small tumour in the rectum was diagnosed as an ovarian cyst, which could have no influence in the production of the obstruction. A tumour existed in the left hypochondriac and lumbar regions, about the size and shape of a large lemon. It seemed to fluctuate obscurely. It was dull on percussion, and could not be moved freely. The patient died unrelieved on the 24th, and in the evening of the same day Mr. Pugh made a post-mortem examination in the presence of Dr. Hickinbotham and myself. The note of the condition of the parts has the concurrence of all three. On making the usual median incision it was found that there was no appearance of an abdominal cavity, the tissue of the anterior wall seeming to run on to the stomach and small intestines, and these latter lay matted together, looking exactly like the convolutions of the brain, only they were not covered with any glistening membrane. The coils were readily separable, and their union was due to an abundance of ordinary areolar tissue identical with what is seen on separating fresh muscles by tearing. Nowhere was there any trace of inflammatory action, as everywhere the loose extensile tissue prevailed. The tumour in the left lumbar region was found to be composed of a number of knuckles of intestine, which were occupied by numerous nodules of hard feces. The inability of the intestines to move these masses onward seemed to constitute the whole cause of the obstruction, as we found no actual constriction of the tube. In the pelvis, none of the usual peritoneal limitations existed, so that it was impossible to identify the organs *in situ*, and it was only after very considerable dissection that the tumour which had been diagnosed as ovarian was found to be really so. The menstrual history of this patient was marked by no great abnormality, and there was no history of any peritonitis."

Molluscum Contagiosum.

This interesting and by no means infrequent skin affection has long been debated by dermatologists. Some, as Hebra, deny its right to the term "con-

tagious;" but the majority of writers, at least in this country, adduce ample evidence in favour of its being communicable by inoculation. Nor is there unanimity of opinion as to its pathological nature. Many hold it to be an affection of the sebaceous glands; others, as Virchow, not being able to detect any true fatty materials in the characteristic softened contents of the little growths, believe they arise rather from the hair-follicles. There are, again, others who, thinking to assimilate the contagiousness of the affection with its pathogenesis, affirm it to be parasitic, and have described certain large fungus-spores (molluscous bodies) in the contents of the growth. Dr. C. BOECK, of Christiania, in a recent paper (*Vierteljahresschr. für Dermat. u. Syph.*, 1875, part i.), shows that none of these views are correct, but that the idea propounded by Retzius as to the seat of affection being in the rete Malpighii is the correct one. Retzius, however, thought the affection was parasitic, and here Boeck differs from him. In the paper from which we quote, the learned Norwegian dermatologist describes fully the histological characters of the molluscous tumour, and shows conclusively that the characteristic contents are formed by retrogressive changes occurring in the cells of the deep layer of the epidermis, the so-called "molluscous bodies" being nothing else than modified epidermal cells swollen and altered by peculiar refractile substance, neither of fatty nor of lardaceous nature. He has never found this change in other conditions, as in comedones or acne pustules, but it is constantly present in this disease; the contagious property of which, he thinks, may be explained either by the self-multiplication of the diseased cells when transferred to other individuals, or by their setting up, by "action of contact," similar changes in the part to which they are transferred.—*Lancet*, Aug. 7, 1875.

Nasal Lupus.

Mr. GAY read a paper on this subject at a late meeting of the Royal Medical and Chirurgical Society (*Med. Times and Gaz.*, July 31, 1875). His object was to show that lupus exedens is a topically malignant form of ulceration, and that the alleged cures of this affection by constitutional means are probably due either to errors in diagnosis, or the inclusion under the generic term "lupus" of forms of disease with which typically it has no natural affinity or alliance. From the ulcers for which, from its objective features, it is most likely to be misapprehended, viz., epithelioma and rodent ulcer, it may be clearly distinguished (*a*) by the periods of life at which these diseases are most prone respectively to attack individuals; (*b*) by their several histological features; (*c*) by some certain dissimilarity in their objective symptoms; and (*d*) by the test of systemic contamination, as indicated by ganglionic infection. Bearing on the practical point in the paper, which is its curability by excision, the question of its systemic complication is of the first importance, and in this respect the author infers, from the results of his experience of the knife as a remedy, as from his observations on the idiosyncrasy of persons affected with lupus, that it is, like rodent ulcer, as shown by Mr. Hulke's investigations, essentially a local disease. It may, and certainly does, occur in persons with some of the ordinary general systemic indications of struma, but not, so far as the author has observed, with those of strumous joints or glands. The conclusion to which dermatologists have come with regard to the influence of systemic remedies is favourable to this view of its essential character, for they have been compelled consistently to deny to drugs any therapeutic influence over an established lupoid sore. The only principle upon which it can be successfully treated is that of eradication by topical means. Caustics, however, have repeatedly failed, apparently from a want of definite aim in using them. There has been no clear mode laid down of ascertaining the depth to which the virus of lupus has penetrated from its ulcer surface; consequently, the amount of tissue that has to be destroyed in order to insure its perfect eradication has been a matter of conjecture. The author believes that the limits of the poisoned tissue may be satisfactorily determined, and that these are not so wide as to be beyond the reach of the destructive powers of caustic potash. The objection to this agent, however, and the pre-eminent favour in which the

author is disposed to hold excision, arise from the fact that in nasal lupus, especially in which disfigurement follows in the event of its being removed by caustic, cicatrization, or an advance towards it, must be allowed to take place before any restorative operation of a plastic kind can be done—one of the most important objects in the treatment of cases of this kind. If the removal of the diseased parts be made by the knife, any such operation that may be deemed expedient may be simultaneously done; and thus tissue is saved, the loss of which would be incumbent on the use of caustic. Cases were cited illustrative of the mode of treatment which the author recommends.

Surgery.

Histogenesis of Cancer.

In his valuable paper in the scientific reports of the Medical Officer of the Privy Council, Dr. CREIGHTON has dealt with the question of the origin of cancer from another side to that taken in the discussion at the Pathological Society last year. In that discussion, enriched as it was by the speeches of so many of the foremost men in the school of English pathologists, the question was dealt with in great measure upon clinical grounds alone; the result being that opinions were equally divided between the view of a purely local origin of the disease and a constitutional one. Dr. Creighton, carrying on his researches at the Brown Institution, has studied carefully the histological features of the disease, and the results of his inquiry not only go far to upset the doctrines of Virchow on this head, but also lead to some highly suggestive hypotheses as to the origin of primary malignant tumours. Using the term "cancer" in its widest sense so as to include not only those malignant growths which arise primarily from epithelial surfaces, but also the vast group of the sarcomata whose origin lies in the connective tissues, Dr. Creighton commences by stating the results of his examination of growths in the liver secondary to those arising in the skin, bones, uterus, spleen, etc. The study of the formation of these secondary formations throws light upon the probable mode of origin of at any rate one great class of malignant tumours—the true cancers.

The mode of origin of secondary tumours is still a matter of debate. Many hold that they arise by the direct transference of the cells of the primary growths to the seats of the secondary formation; while others, including Virchow, maintain that there is a transformation of the pre-existing elements of the part into cells similar to those forming the primary tumour. Virchow, however, holds that it is only the cells of the connective-tissue framework that are so transformed, the highly specialized epithelial elements of the infected organs undergoing no change. Here, indeed, is the great point of divergence between the views of Virchow and those held by Dr. Moxon in this country, and confirmed by the author of this paper. Reinstating "vacuolation" into the place from which Dr. Beale, two years ago, had removed it, Dr. Creighton avers that this is the first change undergone by a liver-cell on its way to be transformed into cells similar to those composing the tumour, be this myxomatous, lymphomatous, epitheliomatous, or what not. Vacuolation is, in fact, the first stage of endogenous cell-formation—a mode of cell-multiplication which has received far less attention than it merits. Briefly, the process consists in the conversion of the greater part of the protoplasm of the gland-cell (in this instance of the liver) into a highly refractive material, probably of fatty nature, the remainder of the protoplasmic contents being either displaced to the periphery of the cell, or remaining free in the centre of the cavity formed by vacuolation. It is from this protoplasm, the vital properties of which are manifested by its deep colouration with staining reagents, that, by an endogenous process, new cells are formed, at first round and "indifferent," later

assuming the specific forms characterizing the cells of the primary tumour. Of this process, with various modifications, Dr. Creighton has traced the progress in all its stages by examining growths in the liver of various size and development. All growing tumours in this organ are surrounded by a zone of indifferent cell-growth and by columns of liver-cell in the stage of vacuolation. The process is then a truly metaplastic (or heteroplastic) one, taking place in the protoplasm of the liver-cell under the influence of the primary growth—an influence which he terms "spermatic," the changes that occur in the liver-cell being strictly comparable with the metaplastic changes that occur in the ovum after impregnation. It will be seen by this that the connective-tissue framework of the infected organ plays no part in the process, nor does it even in the formation of a stroma, which is so frequent a character of some tumours, this also being formed from the remnants of vacuolated cells.

So far, then, for the formation of secondary tumours. There can be little doubt that there is a true genetic relation between them and the primary growths. But what light does this throw upon the nature and origin of the latter? To clear up this, which in truth is the point of most importance both clinically and pathologically, Dr. Creighton points out that vacuolation is a natural process. The products of secretory glands are all probably formed by some such process taking place in the gland-cells themselves. The secreting cell becomes filled with its peculiar product by undergoing a process of vacuolation; and the product—be it mucus, milk-globule, or spermatozoon—is distinctly a new formation, differing from the primary protoplasmic contents of the parent cell. Should the process of cell-transformation be arrested (it may be naturally, as in the involution of the mammary gland) or perverted, the resulting products are different; the solid or protoplasmic part of the cell gives rise to new cell-forms, and in some such way a new heteroplastic growth—as cancer—may arise. Here we have, then, yet another example of morbid products resulting from perverted natural processes, and, we may add, one other link in the chain of evidence in favour of the local origin of cancer. There yet remains unsolved, however, the question as to the exciting cause of this change. Dr. Creighton proposes to follow up these researches with others bearing upon the development of mammary cancer, with special reference to the processes of involution and evolution of the gland; and, when completed, they cannot fail to be of the highest value, and are calculated to throw yet more light upon one of the most obscure points in pathology.—*Lancet*, July 17, 1875.

Mr. Teale's Case of High Temperature.

Although five months have elapsed since notes of a remarkable case of high temperature were read before the Clinical Society by Mr. Teale (see July issue of this Journal, page 320), yet the case was in itself so subversive of all current ideas on the subject that we doubt not it is still fresh in the memory of our readers. With commendable candour the author of that paper has just addressed a letter to a contemporary in which he replies *seriatim* to several very natural queries that have been put to him concerning the facts of the case, and the possibilities of any artificial means within reach of the patient of raising the index of the thermometer. From this it would appear that observations were taken in mouth and rectum as well as in the axillæ, with the result of showing the same high level (110° to 120°); that the rise in the thermometer was sometimes noticed at the time; that no hot bottles or blankets were in contact with the patient by which she could have artificially warmed the thermometer; and that the instruments used had been tested and found correct, and had during the recovery of the patient registered normal as well as abnormal temperatures. As we ventured at the time to question the possibility of the maintenance of life at such a high rate of temperature (unaccompanied as it was by any extreme variation in pulse and respiration frequency), so do we now cheerfully accept Mr. Teale's further explanations, which seem to leave nothing to be desired in testimony of the faithfulness and accuracy of the record; while at the same time it leaves the *modus operandi* in as mysterious a condition as

ever, and goes far to expand our hitherto too narrow notions. Exceptional and full of mystery the case must remain, and that another of like nature will occur is to be hoped, lest we may have to consign it to that limbo of "exceptions" which go to prove the rule, the rule in this instance being the incompatibility of animal life with a body heat of 120° .—*Lancet*, July 17, 1875.

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On Extraction of Cataract by a Median Section through the Cornea.

The editor of *La Cronaca Oftalmologica*, of April 12, gives a short account of a method of operation which has been practised since 1869 by his fellow-countryman, Dr. VICENTE CHIRALT, for the extraction of cataract, and with very marked success. The operation consists of three stages, the first and most important of them being, the cutting a section transversely across the cornea at the junction of the middle with the lower third, by means of a Von Graefe's knife, which is entered at the sclero-corneal margin and is passed rapidly across the anterior chamber, and made to emerge on the opposite and corresponding point. No iridectomy is performed, and chloroform is considered unnecessary. The capsule is opened in the usual way as the second stage of the operation, and the lens is generally removed without difficulty with the aid of slight pressure upon the upper lid, assisted by Von Graefe's elastic spoon.

Dr. Chiralt considers the operation a complete success when the patient can read No. IV. Snellen; moderately successful when some letter larger than No. IV. is read; and unsuccessful when the largest types only can be read. When measured in this way, his results may be thus stated:—

Good, when the patient could read S. I. V.	.	.	.	73
Moderate, " " " some larger type	.	.	.	7
Bad, " " " only S. C. or C. C.	.	.	.	5
				—
				85

The editor admits the similarity of this operation to that proposed and practised by Le Brun; but he claims for Dr. Chiralt the priority of its performance.—*Lond. Med. Record*, June 23, 1875.

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An Improved Method of Treating Certain Cases of Cataract requiring Extraction.

Mr. J. VOSE SOLOMON, Surgeon to the Birmingham Eye Hospital, states (*Lancet*, July 31, 1875) that in some ophthalmic works which discuss the cure of senile cataract, the presence of a deep-set eye is given as a reason for the selection of depression or reclination in preference to the operation of extraction. He imagines no surgeon who has had experience in such cases will deny that a deep-set eye occasions some embarrassment in the making of the corneal section with a Graefe's or Beer's knife, especially where anæsthetics are not employed.

In a recent case at the Birmingham Eye Hospital, Mr. Solomon improvised a simple and effective method of overcoming the difficulty under consideration by making with a pair of sharp scissors a perpendicular incision through the substance of the lower lid of about three-eighths of an inch in length and one-sixth of an inch from the commissure. Steady continuous pressure by means of a small sponge restrained the bleeding within innocent limits. The front of the eye having been now made easy of access to the knife, the section of the cornea was completed without difficulty, and the lens safely delivered without accident. No anæsthetic was employed. The lid was not sutured, but dressed with cerate instead of dry rag, and two turns of a narrow domett roller. The patient, a collier of sixty-eight years, recovered without a single painful or unfavourable symptom, and was discharged cured on the fourteenth day of the operation, with a clear black pupil, good vision, and perfect cicatrization of the tarsal cartilage.

The above plan should have preference to any that interferes traumatically with the condition of the commissure, from the impossibility of its inducing abnormal contraction of the palpebral aperture or inversion of the lid (entropion)—accidents of no mean importance.

The operation of *reclination* has fallen into undeserved neglect, and, as a consequence, eyes are destroyed which would have had a good chance of vision if it had been selected for performance instead of extraction. A resort to it would be advisable where there is extensive fatty degeneration of the cornea and other tissues, and in subjects in whom the arteries have become seriously spoilt by atheroma, also in those who are affected with tertiary syphilis of old date. In the last two pathological conditions, intraocular hemorrhage is the complication to be dreaded after the removal of the lens, or even upon the mere evacuation of the aqueous humour (no hypothetical case); in the first, death of the corneal flap within eighteen hours of the performance of the extraction is not uncommon.

On Concussion of the Retina, and on Foreign Bodies in the Eyeball.

In some observations on injuries of the eyes (*Berliner Klinische Wochenschrift*, May 31), Dr. HIRSCHBERG draws attention to the fact that loss of sight after severe blows in the neighbourhood of the eye during the preophthalmoscopic period was very frequently attributed to commotion or concussion of the retina, terms rarely employed at the present time, when experience has taught us that amaurosis and even extensive amblyopia are usually accompanied by some well-marked anatomical lesion. When amaurosis follows an injury, such as a violent blow upon the parts round the eye, it is nearly always associated with atrophy of the optic nerves, and in many of these cases it is probable that some severe damage has been inflicted upon the optic nerve between the eyeball and the base of the brain, and this assumption is supported by experiments upon animals (*Wochenschrift*, No. 37, 1869). According to the statement and experience of Berlin (Zehender's *Monatsblätter*, 1873), when temporary loss of sight has occurred from a contusion of the eyeball, there will be found a very decided although a transitory amount of opacity in the retina, the result of œdema it is supposed, and which is probably associated with the presence of hemorrhage between the various tunics of the eye. From experiments upon animals it appears that the immediate effect of concussion upon the eye is a narrowing of the arterial trunks, which in turn is soon followed by their dilatation, and by the establishment of a condition of ischæmia.

In support of Berlin's conclusions, Hirschberg records the case of a man, aged twenty-nine, who received a severe blow upon the right eye from the end of a heavy rope; vision was at once reduced to perception of light, and after the lapse of ten minutes large objects only could be discerned. On the day following the vision was nearly normal again, but there was mydriasis, and a slight rupture of the inner margin of the pupil. With the ophthalmoscope Hirschberg could detect a faint opalescence of the retina, which radiated outwards in all directions from the optic papilla, but which did not involve the yellow spot; this appearance was to be distinguished from that of diffuse retinitis by the optic disc remaining unaltered and the vessels of fundus being no larger (more congested) than those of the uninjured eye. In one spot, there was the appearance of a slight detachment of retina. In a few hours these appearances could no longer be seen; vision was perfectly restored, except that there remained slight mydriasis and an impairment of the accommodation.

With reference to foreign bodies, Hirschberg records another instance in which a foreign body had entered the eyeball, where it could be readily seen with the ophthalmoscope, and yet good vision was retained; similar instances have been recorded by Von Graefe and by Jacobson (*Archiv. für Ophthalmol.*). In the present case a splinter of steel had penetrated the right eye of a button-maker, and without wounding the lens had imbedded itself upon the retina immediately above and to the outer side of the yellow spot. A week after the accident the foreign body was readily seen; it glistened like polished metal,

and with the exception of some membranous films in the vitreous body there was no evidence of structural lesion. On very minute examination it was possible to trace the site of entrance in the sclerotic, at some little distance beyond the margin of the cornea. The patient could read Snellen $1\frac{1}{2}$ with + 6 glass; he was kept in a dark room, and the eye was carefully bandaged and treated with atropia. After an interval of six months the condition of the eye had not materially changed, except that the vitreous opacities were less marked, and the colour of the fundus around the foreign body was almost restored. The vision of the eye had not in any appreciable degree deteriorated.

[The fortunate result which frequently attends such a severe accident as the above, independently of the fact that the ciliary processes and the crystalline lens have usually escaped injury, is in some measure due to the nature and material of the foreign body itself. Thus substances which are not readily acted upon by the humours of the eye, such as fragments of hard and polished metal, and more especially splinters of glass, have been known to remain and to rest inert within the eyeball during long periods, while bodies of a softer texture will speedily react upon the tissues around, by causing rust, etc., and thus induce suppuration and involve the whole eyeball in destructive inflammation. BOWATER J. VERNON.]—*Lond. Med. Record*, June 23, 1875.

Chronic Inflammation of the Lachrymal Sac.

In the *Medicinisch-Chirurgische Centralblatt* (Nos. 11 and 12) Dr. SIGMUND BACHER gives the history and the details of three cases of this kind which are, as he admits, common enough, but whose exciting cause is not always easy to be found. In each instance the inflammatory mischief had commenced elsewhere, and the lachrymal sac had become secondarily affected. The first case was that of a girl, aged twelve, who had a small abscess in the integument of the eyelid, and an obstruction to the escape of the tears with a dilatation of the sac subsequently. The second case occurred in a young woman, aged twenty-four, who had suffered from persistent nasal catarrh after measles; and the last instance occurred in a man, aged thirty-eight, who had suffered from a chronic ozæna of a specific nature. In all three cases the same treatment was adopted, the lower canaliculus was first dilated, and then the passage was slit open with Arlt's scissors, and the nasal passages were then explored with the smallest of Bowman's probes. The probe was for some time passed daily, and its use was not altogether discontinued for many weeks. Dr. Bacher does not put much faith in the value of larger probes than Bowman's No. 4, and he does not believe in the use of probes at all when the disease has been of long standing, in which the discharge is purulent rather than muciform, and in which one would expect the walls of the sac to have degenerated and to have become unable to exercise any power of contraction.—*London Medical Record*, June 23, 1875.

On a Case of Nearly Complete Deafness of One Ear after an Apoplectic Seizure.

Dr. J. HUGHLINGS-JACKSON states (*Med. Times and Gaz.*, July 31, 1875): "That different kinds of ear disease occur with different kinds of nervous symptoms in different kinds of relation, is well known. I have never known, however, complete deafness after apoplexy of any kind. I here use the word apoplexy in its wide sense, as including sudden coma from many causes. It is believed that disease of the labyrinth will cause grave nervous symptoms, mostly vertigo, with retching and vomiting. The labyrinthine disease, it is supposed, may be either primary—a hemorrhage in it, for example—or secondary, there being increased pressure in the labyrinth, consequent on disease in the tympanum. I think, considering that there is what Knapp calls limitation of the field of audition, in the case which I am about to relate, there is disease of, at any rate, the cochlea, and probably there has been a sudden hemorrhage. It is not certain, however, that a hemorrhage in the labyrinth,

however sudden and extensive, would produce such deep apoplexy as this patient had; his coma was like that from a large cerebral hemorrhage. I think there may have been a separate lesion to produce the apoplexy. I suggest the possibility of another lesion because I do not think that any disease of the encephalon, which might account for the apoplexy, would produce deafness. I except, of course, disease of the auditory nerve or its nucleus; but of disease of this nucleus I know nothing. It may be theoretically maintained that a hemorrhage in the medulla would produce the two symptoms—deafness and apoplexy. But diagnoses without the anticipation of post-mortem examinations are not very profitable in cases like this. My patient was well in general health when I saw him last, and I hope he is so still. His case is of sufficient clinical rarity to deserve record.

“At 9 P. M. on Christmas day, 1871, I saw with Dr. Frederick Marsh a man, forty-eight years of age, who was suffering from apoplexy. He was profoundly unconscious. I could find no local paralysis. I regret that I did not take any notes of the case. I never expected to hear of him again. We both of us believed the man was dying. It *was* a case of apoplexy; there was deep coma, and the question in my mind was whether the case was one of simple apoplexy or of large clot in the pons Varolii. Having seen a good many cases of apoplexy, I was able to come to the conclusion that I did not know, or, as I may be permitted to put it, that there was no evidence to warrant a diagnosis. I mention these things to show that, at any rate, the case was severe, and one likely to prove fatal. To my astonishment I heard, some weeks later, that the man was well again, except that he was deaf. As this was a rare sequel of apoplexy of any sort, I asked Dr. Marsh to send the patient to me. From the patient's wife and from the examination of the patient I took the following notes on March 7:—

“On Christmas eve about 10.30 P. M., he blew his nose very violently, and afterwards said he had pains from the back of his head down the spine to the calves. He then turned ‘on his stomach and on his hands and knees’ with pain, seemed to faint, and then became unconscious. As I say, when I saw him, about twenty-four hours later, all I could determine was that the patient was apoplectic and, as I thought, dying. His wife told me that he came fully to himself in about fourteen days, but as he spoke in four days and seemed to know his wife, he was probably only partly unconscious the latter part of the fortnight. When he got out of bed at the end of the fourteen days he tottered, but only slightly. But he was deaf; at first he thought it was his wife who could not speak.

“When I saw him his general health was good. There was no albumen in his urine. There was no paralysis, and he did not reel. His optic nerves were normal. The only alteration made in him during the apoplexy was the deafness of the left ear.

“He had for twenty or thirty years been considered deaf of the right ear, but *now* the right ear is the only useful one; he calls it his good ear, but he can, with it, only hear when his wife puts her mouth close to it. The state of hearing on the ‘bad’ side may be inferred from this state of the ‘good’ ear.

“He could not hear the tuning-fork placed on his forehead in either ear; when placed on the left mastoid process he heard it faintly. Moreover, he spontaneously remarked that it was the note C; this was engraved on the fork. He himself found out and mentioned to me that he could hear the tapping together of two wooden stethoscopes better with his worse (left) ear, and that ‘it was very remarkable’ that he could hear the nipping together of his nails on the left side, and not on the right. A medical friend helped me in my examination, and reported that both *membrana tympani* were concave, but the right the more; the Eustachian tubes were open.”

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On a Slight Modification of the Operation for Closing Fissures of the Soft Palate.

Those who are in the habit of operating upon these cases are aware how important is the passing of the first suture, and that its disposition with re-

gard to the edges of the cleft and to the limit of the extent of the fissures, are of the first moment to the subsequent steps. Now it very frequently happens that the processes of freshening the edges of the cleft, and of dividing the muscles, in the hands of inexperienced operators, render the subsequent passing of these sutures a matter of considerable difficulty, even although the patient be chloroformed, and the parts distended by means of the gag.

Mr. EDWARD BELLAMY has found that the primary introduction of a silver-wire suture in the following manner is a great auxiliary to success in the more important steps of the operation, before the edges be freshened, and the myotomy performed. A needle armed with stoutish silver wire should be introduced at a point rather less than midway between the apex of the cleft and the free uvular margin of the velum, taking care that it transfixes the tissues at some distance from the edges of the fissure, and that the point of its introduction on the opposite side exactly corresponds with it. The ends of this wire are now to be brought out of the mouth, but the loop left loose behind the velum. Next comes the division of the muscles, and then the paring of the edges of the cleft. The object then, of passing the wire suture thus early, is, that though *in situ*, it runs no chance of being divided by the knife during this portion of the operation, whilst, by giving it a good hold of the palatal tissues I have alluded to, as soon as the V is removed, it can be immediately tightened, thus approximating the edges at once, and giving the patient a little breathing time (if without chloroform); and, moreover, enabling the surgeon to clear the mouth entirely of clot, and to exactly adjust his remaining sutures without undue hurry and with greater nicety.—*British Med. Journal*, June 12, 1875.

Cyst of the Thyroid Gland Cured by Electrolysis after Injections had Failed.

Dr. ANDREW H. SMITH, of New York, reports (*Medical Record*, Aug. 7, 1875), the following case of this: Miss M. S., aged twenty-four, applied for treatment at the Throat Department of the Manhattan Eye and Ear Hospital in January last, the case being one of a tumour of the size of a small orange, situated in the right thyroid region. The growth was first observed some four years before as a small lump, since which time it had gradually but steadily increased in size, until it now constitutes a very decided deformity.

The patient has taken a great deal of iodine, and a variety of applications have been employed locally by the advice of her family physician, but without benefit.

On examination, the tumour is found to be globular, smooth, and elastic, and is evidently a cyst containing fluid. The anterior segment of its wall lies immediately under the skin, to which it is not adherent. The posterior segment, on the other hand, appears to be intimately blended with the underlying tissues. The tumour follows the movements of the trachea in swallowing.

The cyst was evacuated by means of the impromptu aspirator which I have described in a former number of the *Record*. Two ounces of fluid were drawn off, a little darker in color than brown sherry, and filled with shining particles which the microscope showed to be crystals of cholesterine. The fluid was solidified completely by boiling.

Half a drachm of tincture of iodine was injected into the sac, and this operation was repeated about twice a week, after the plan recommended by Stoerck. But the cyst always filled again in the course of forty-eight hours, and at the end of a month no real progress had been made. I therefore abandoned the injections, and resorted to galvano-puncture. A common glover's needle was thrust into the cyst, and connected with the negative pole of a Drescher's constant-current battery. The other pole was connected with a sponge held in the hand. From twelve to twenty cells were employed, and the sittings occupied from ten to twenty minutes. Three sittings sufficed to render the tumour perfectly hard and somewhat nodular, and after this there was a rapid decrease in size. Twelve sittings, occupying about six weeks, reduced the growth to a small, irregular mass of hardened tissue, which could be felt beneath the skin,

but which caused a scarcely perceptible prominence. Treatment was then suspended, and when I last saw the patient, a month later, absorption was still going on, with every prospect of ultimately removing every trace of the tumour. A minute circular cicatrix showed the location of each puncture.

— *Lithotrity.*

Although the accumulated experience of many surgeons during many years has done much to determine the respective merits of the two operative procedures—lithotomy and lithotrity—for the removal of vesical calculus, it can scarcely be said that the data we have hitherto possessed have been sufficiently numerous or unequivocal to ensure a unanimity of action. It is true that there has been for many years a general agreement concerning the two operations among some of the leading authorities; but to many good surgeons lithotrity is, even in the present day, practically little known, while lithotomy is regarded as the only safe and legitimate mode of treating stone in the bladder. This state of things is, perhaps, only natural. Until within the last few years no reliable statistics of lithotrity existed, whereas lithotomy from the earliest times has been deemed the triumph and glory of surgery. In the statistics of lithotomy cases have been dealt with by the thousand, and very trustworthy information has been obtained respecting the relative mortality at all ages, for all kinds of stones, and for all sizes; but the statistics of lithotrity have for the most part been drawn up by friends or by foes, by whom the operation has been either unduly applauded or too severely denounced. Civiale, for instance, defended the procedure with all the ardour of a partisan, and did not hesitate to allege that a fatal termination after the crushing operation was almost impossible. If the patient died, the cause of death was attributed to some extraneous cause—never to the operation. This indiscriminate praise, when compared with the less favourable experience of others, could scarcely fail to produce considerable distrust in the minds of impartial observers, and for a time the operation fell into disrepute with many of the best surgeons in the country. Happily, however, the operation has been rescued, in this country at least, from both the unreasonable adulation of its advocates and the wholesale condemnation of its opponents by the honest and judicial representations of Sir Benjamin Brodie, Sir William Fergusson, Sir Henry Thompson, and others; and may be said, at least, to have assumed its proper place in operative surgery.

It is a truth now very widely accepted, that neither lithotomy nor lithotrity is suitable for every case of stone in the bladder; but that, under certain circumstances, each has its special and peculiar advantages. The conditions that justify the performance of one or the other operation are generally readily recognizable, and there is usually very little difficulty in deciding which procedure offers in a given case the best prospect of success. Indeed, all experience has tended to show the paramount importance of ascertaining what these conditions are; for on a just appreciation of them will the ultimate results very materially depend.

Safe and efficient as lithotrity has been shown to be, it is, nevertheless, true that there are states of health and conditions of kidneys, bladder, and urethra, or of stone, that absolutely preclude it. Lithotrity is, in fact, so much an operation of election that the general results will depend more on the care and attention bestowed on the selection of the cases than on the manual dexterity of the operator; and, unless this fact be kept prominently in view, lithotrity may in the long run be made more disastrous and fatal than lithotomy.

It is not our province now to enter into all the details of the operation of lithotrity, nor even to consider all the conditions likely to ensure a successful result or those calculated to militate against it. We shall for the present base our remarks on the broad question of comparative mortality.

By an analysis of more than 1800 well-authenticated cases Sir Henry Thompson showed that the average mortality of lithotomy at all ages was about 1 in 8; but that by excluding all the cases under sixteen years of age, in which the mortality was 1 in 15.5, the proportion of deaths rose to 1 in 5 for all ages

beyond sixteen, the increased mortality being in direct ratio to the age of the patient. The results obtained by Sir William Fergusson, and set forth in his lectures delivered at the Royal College of Surgeons in 1864 and 1865, were similar. In 110 cases in which lithotomy was performed in the adult, there were 33 deaths, or 1 in 3.5.

If we now compare these results with those obtained by lithotripsy, always premising that the cases have been properly selected, the advantages of the crushing operation will at once be apparent. In 115 cases, in about 100 individuals, recorded by Sir Benjamin Brodie, there were 9 deaths, or about 1 in 12. In 204 cases, in 185 individuals, the mean age of whom was sixty-one, recorded by Sir H. Thompson up to 1870, there were 13 deaths, or about 1 in 15.5; and in the 87 cases of lithotripsy recorded by Sir Henry in our columns (April 3d), and the subsequent progress of which we published on the 3d inst., there were 4 deaths, or about 1 in 22, the mean age of these individuals being sixty-three years and a half. Sir W. Fergusson's results recorded in 1865 gave 12 deaths in 109 cases, or 1 in 9. These facts, which cannot be gainsaid, argue most convincingly in favour of lithotripsy; but they should not be made to weigh unfairly against lithotomy, for which many of the worse cases, obviously unfit for the crushing operation, are reserved.

An important question respecting lithotripsy still, however, remained practically unanswered—namely, the condition of patients a year or two after the accident. An impression very generally prevailed that recurrence of stone was more common after lithotripsy than after lithotomy. This impression was doubtless to some extent true, but the difference in the immunity afforded by the two operations had evidently been exaggerated. We need only refer to the answer to this question published in our columns by Sir H. Thompson a fortnight back in confirmation of this statement. In that article not only was the average mortality shown to be lower than that of lithotomy, but a large number of persons (28 out of 45) were stated to be “in good health and active existence.”

There is another point, incidentally referred to by Sir Henry Thompson, which has not yet received the attention it deserves—namely, the value of the lithotrite for the removal of recurrent phosphatic calculus. It is manifestly impracticable to repeat lithotomy every time a phosphatic calculus forms; whereas, by means of lithotripsy these accumulations may be removed with comparative impunity several times a year. In such cases the patients are actually kept alive and well by lithotripsy. Valuable as lithotripsy has been and is, it may be doubted whether its full powers have yet been developed. The notion that lithotomy for the removal of stone from the adult bladder will some day be a rare, if not an obsolete, operation is not perhaps so utopian as we sometimes imagine. As the pathogenesis of calculus becomes more accurately worked out, as the methods of constitutional treatment become more scientific and the modes of physical examination and diagnosis more exact, it may well be that, though the formation of calculus may not be altogether prevented, the cases of stone in the bladder may all be detected while in that stage in which lithotripsy has been demonstrated to give the best results.—*Lancet*, July 17, 1875.

Strangulated Hernia reduced by Taxis through the Colon.

Dr. ALEXANDER HADDEN, of New York, reports (*Medical Record*, July 24, 1875) the following case: June 13th, 11 P. M., I was called to see Mrs. B., aged 45 years, the mother of eleven children, a thin, delicate woman of highly nervous temperament.

She was suffering from colic, due to some food she had taken at supper; had not vomited, nor had her bowels moved since morning. I ordered an enema of warm soap-suds to free her colon, and a Magendie's solution of morphia, gr. x., to subdue pain. The injection relieved her bowels, and the morphia, which was repeated twice during the night, eased the pain, notwithstanding she vomited several times after taking it.

June 14, 10 A. M. She was quite comfortable; had, however, slight nausea, and a little pain; called my attention to a lump in her left groin, about the size

of a duck's egg, which she said had been there before and had gone away, but this time was harder and more painful. I examined it and found it to be a direct inguinal hernia, hard, tender to the touch, and not reducible, notwithstanding my efforts to reduce it were made while she was fully under the influence of chloroform. When satisfied that it could not be then reduced, I applied ice in a bladder to the part, and waited until the morning of the 16th, watching her condition carefully during this interval of time. I made an effort occasionally to put it back, and did several times reduce its size. Her vomiting during the night had been frequent and of greenish color, and symptoms of strangulation of the circulation of the involved part began to develop. Delay of interference was occasioned by her refusal to have it touched any more, because she was under the impression that it would go away itself, as it had done before. On being called on the morning of the 16th, at 4.30, I went, accompanied by my student, R. C. Irving, and Drs. D. F. Leavit and P. W. Cremin. A conference was held, and it was resolved that she be again put under the influence of chloroform, and another effort be made to reduce it, which was done at once, and after a fair trial by each of the physicians present without success, hope of relief through such means was abandoned. I then suggested that before we resorted to the knife an effort might be made to reduce the hernia by passing the hand through the rectum into the colon, and endeavouring through its walls to produce traction on the involved intestine sufficient to disengage it. This was approved of, and I accordingly did so and succeeded.

The steps of the operation were as follows: The patient, being fully under the influence of chloroform, was placed on her chest and knees, and supported in that position. I next introduced my fingers into the anus, and passed my hand by gentle pressure up into the colon. I had some difficulty in following the intestine over the promontory of the sacrum, but when my hand had passed this point it was very free. I could feel the engorged intestine plainly, and could make traction on it with my fingers, and did carefully, fearing that I might rend it. My manipulations consisted, chiefly, in gently rubbing my finger along the intestine from the inner surface of the ring, and using external taxis with my other hand at the same time.

The desired result was accomplished in about ten or fifteen minutes with comparative ease. There was no omentum involved, as I had been led to think by the boggy feeling of the mass. There seemed to be only thickening of the coats of the strangulated intestine by serous infiltration.

After the reduction I bandaged the patient around the bowels tightly, and put over the hernial opening a firm compress made of a bladder containing ice, covered with a napkin, and gave her a hypodermic injection of \mathcal{M} .v. of Magendie's solution. Her vomiting from this time ceased. She complained very much of pain in the lower part of her bowels for the first twenty-four hours, and a smarting pain in the anus; could not pass her urine except by catheter, which was attributed to her not being able to sit up on a commode.

17th. Very comfortable, her bowels had moved freely, and all nausea had passed away.

21st. Recovery is quite complete; has only slight soreness in and around the anus. Bowels move every day naturally. Diet prescribed throughout was liquid, chiefly milk, beef-tea, and gruel.

There was nothing remarkable in the treatment of the case other than what has been mentioned. As to the relative merits of this method of reducing a strangulated hernia, I can say but little. It might not succeed so well in another case, but it is reasonable to suppose it would, if carefully done. This patient was by no means a favourable one on whom to make the first trial.

A Combination of the Cutaneous and Musculo-Cutaneous Plans of Amputation.

DR. D. HAYES AGNEW, Prof. of Surgery in the University of Pennsylvania, has recently employed (*Phila. Medical Times*, August 7, 1875) a method of amputation which appears to possess advantages worthy of notice. In

raising the integument from the deep fascia, after the old plan of the skin-flap, whether circular or oval, a large number of its vessels are necessarily cut, which tends to jeopardize the vitality of the flap. Again, in this operation, the muscles being divided circularly, it is impossible to secure an accurate contact of the surfaces; irregular spaces or cavities between the muscles and flap will remain, in which the discharges collect and interfere with the healing.

If the musculo-cutaneous method be adopted, the skin, from its greater elasticity, retracting more than the muscles, leaves the latter hanging below, thus requiring that they be either abridged with the knife, or tucked and crowded in, so that the stump can be closed. The plan which obviates all these objections consists in making two oval cuts through the skin, down to the deep fascia, on opposite sides of the limb, raising the integument only a short distance—say three-quarters of an inch—and then applying the knife at the junction of the skin-flap and the deep fascia, and cutting the muscles obliquely back to the bone or bones, as the case may be; or, if transfixation is preferred, thrust the knife through at the angles of the tegumentary wound, and cut from within out. Dr. Agnew finds, however, the former the more convenient plan. The adjustment between the divided surfaces will be complete.

In the few cases in which Dr. Agnew has performed the operation, the union has been quick, and the form of the stump perfect. This method is adapted to any part of the forearm, arm, or thigh, and even the leg, as its details can be made practical on the posterior part of this portion of the lower extremity.

A New Operation for the Cure of certain cases of Aggravated "Knock-knee."

Mr. THOMAS ANNANDALE, Surgeon to the Royal Infirmary, Edinburgh, reports (*Edinburgh Med. Journ.*, July, 1875) the case of a girl aged six years, brought to him for the relief of an aggravated form of knock-knee. It was found impossible, in any position of the limb, to bring the leg into a straight line with the thigh, the head of the tibia forming a considerable angle with the condyles of the femur. The femur had a distinct bend inwards and forwards about the junction of its lower and middle thirds, and the condyles of this bone were much more oblique in their direction than in the natural condition. The adductor muscles were somewhat contracted, and the distortion was such that the patient walked with difficulty. The left limb was well developed and natural in position. A study of the case convinced Mr. Annandale that the oblique position of the condyles, the result apparently of the bending of the shaft of the femur, was the principal obstacle which was preventing the tibia and leg being brought into line with the thigh, and it therefore seemed to him that if this obliquity could be removed, the deformity might be cured or very much relieved.

Two ways of removing this obliquity suggested themselves. The first was to divide the shaft of the femur at the point where bent; the second, to remove an oblique slice of the condyles. The latter operation would be attended with more risk than the former, because it necessitated the incision of the knee-joint. But some little observation decided Mr. Annandale to adopt the latter proceeding, for he felt sure that it would be more effectual than the former, and he trusted that the risks of opening into the joint would be counteracted by the careful use of the antiseptic treatment.

The consent of the child's parents having been obtained, Mr. Annandale operated on the 16th of March in the following way:—

An incision, about five inches in length, was made along the inner aspect of the knee-joint, the articulation opened into, the internal lateral ligament cut across, and the patella and its ligament being drawn outwards, the crucial and external lateral ligaments were also divided. An oblique slice was then sawn off from the condyles of the femur, the tibia not being interfered with. After the removal of this slice of bone, the leg was readily brought into a straight line with the thigh, and a drainage tube being inserted into the cavity of the joint, a few sutures were applied, and the limb placed on a wire splint, in the straight position. The whole operation was performed under the antiseptic spray, and the usual antiseptic dressing was applied to the wound.

Some suppuration of the wound followed the operation, but this gradually ceased, and, on the 24th of March, the discharge was so slight, that the dressing was changed only once in two days. On the 25th of April, the wound was quite superficial; and on the 29th of this month the wound was soundly healed. On the 6th of May, the patient was allowed to get out of bed, the joint being supported by lateral splints, which were removed daily to permit of passive movements of the joint being made. On the 30th of May, the splints were entirely removed, and the patient allowed to bear weight on the limb. At this date the limb was perfectly straight, and of equal length with the opposite one. The lateral mobility of the joint was very slight, and very much as in the natural condition. Flexion and extension were very limited.

On the 5th of June Mr. Annandale placed the patient under chloroform, and forcibly bent the knee to rather more than a right angle, and also moved the joint freely, so as to break down the adhesions which had resulted from the operation. No bad consequences followed this forcible bending of the knee; and two days after the patient was again going about the ward with the help of crutches, and able to bear weight upon the limb, the mobility of the joint being decidedly improved.

Remarks.—Mr. Annandale is not aware that this or any similar operation has been before practised in cases of knock-knee, but the successful result obtained in the case reported, encourages him to recommend this method of operating in certain aggravated cases of the deformity which have resisted the division of the biceps tendons, or other tense structures, and carefully-applied mechanical treatment.

The employment of the antiseptic treatment in this and similar operations Mr. Annandale considers the most valuable, and he confesses that it was his confidence in this treatment which led him freely to incise so important a joint and to carry out the proceeding described.

Duration of Bloodless Operations.

At a recent meeting of the fourth Congress of the German Surgical Society, Professor LANGENBECK stated his opinion that it was of extreme importance to determine more accurately than has as yet been done how long a limb can be deprived of blood, during a bloodless operation, without danger either to it or to the patient. He thought that the constriction could be kept up for a very long time without fear of gangrene, if the patient could only overcome the disagreeable sensation which the bandage caused. We, however, particularly need experiments on animals, to determine the exact limit of safety. In long operations on the bones—for example, resections—we can see that the bloodlessness is not so complete in them as in the soft parts around, and that capillary bleeding occurs from them when not a drop of blood issues from the muscles. Professor Langenbeck continued: "I have recently kept up the constriction in excisions of the ankle-joint for an hour and a half, without any ill effects. After this operation I always find a plaster-of-Paris bandage the most comfortable and useful dressing; but till lately there was one great disadvantage attending its use—namely, that it became soaked with blood as soon as it was put on. In the last two cases in which I have operated, I have kept up the compression until the bandage was perfectly hard, and then cut large openings in it so that the whole wound could be seen, and only then removed the constriction. The abundant hemorrhage which now occurs from the vessels of the periosteum and the bone soon stops, if the femoral artery is compressed for a short time; with a little care the blood can thus be kept from soaking into the bandage."—*Med. Times and Gaz.*, July 31, 1875.

Midwifery and Gynæcology.

Gastro-Elytrotomy.

At a late meeting of the New York Obstetrical Society, Dr. T. GAILLARD THOMAS reported (*American Journal of Obstetrics*, August, 1875) the case of a moribund woman, near the end of pregnancy, in whom he had performed this operation several years ago as a substitute for Cæsarean section. He made an incision in the inguinal region, parallel with Poupart's ligament, down to the peritoneum; then with the sound he pushed up the vagina and cut down upon it, enlarging the opening with the scissors. The hand was then passed through the large incision into the cervix, which had been dilated with Barnes's dilator, the feet of the child were seized, version was performed, and the child extracted; it was alive and lived several days, dying from causes in no way connected with the operation. The woman was pulseless, and died in four hours. The time occupied in performing the operation was very short, not longer than necessary for Cæsarean section. Dr. Thomas thought that he could perform the operation and deliver the child in five minutes. He did not mean to say that he would perform this operation always in preference to Cæsarean section, and was well aware of the dangers from cellulitis, septic infection, and hemorrhage, especially in the vascular condition of the vagina during pregnancy, but he was inclined to think that the operation had a future. As far as he is aware only one operation of the kind has since been performed, by Dr. Skene, of Brooklyn; the child had been perforated before, and the woman, exhausted previously to the gastro-elytrotomy, died in seven hours. Dr. Thomas thought that drainage through the vagina would diminish the chances of septicæmia. From the description of the operation one might think it a very difficult one; this is not the case, however, for the operation is surprisingly easy in every detail.

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A Case of Extra-uterine Pregnancy; successful Operation.

Dr. G. DRESSELHUYTS reports (*Weekblad van het Nederlandsch Tijdschrift voor Geneeskunde*, No. 21, 1875) the following case:—

Mrs. Van H., married, aged forty, was in her seventh pregnancy when my friend Brinkerink, surgeon-apothecary and accoucheur at Beekbergen, was called to her. Although her first two children had been born alive and still lived, her third, fourth, fifth, and sixth labours were terminated by turning and exhaustion. Of the third and fourth labours, nothing more is known to me; the fifth I myself completed, and during the process recognized some shortening of the conjugate diameter; the sixth was terminated by artificial means by Herr Brinkerink. After the fifth confinement, an abscess formed in the abdominal wall; it healed without treatment, and, from what was told me, it may have been an anthrax. Herr Brinkerink was called to her on January 27th, 1873, although she expected to be confined in March. She had pains in the abdomen, which was reddened but flabby; on the left side Herr Brinkerink felt a mass, which he thought to be the induration remaining after the former suppurative swelling. He informed me that the os uteri felt as in the unimpregnated state. The pains ceased, and the woman resumed her ordinary occupations.

In March, Herr Brinkerink was again called to her, and then found an abscess to the right of the umbilicus. On 2d April, he received a letter from the patient's husband, stating that the abscess had burst and that something had escaped, which certainly no one had ever seen.

Our friend Vlaanderen, formerly sanitary officer at Apeldoorn, being in the neighbourhood of Herr Brinkerink, was invited to see the case with him. Herr Vlaanderen thought that there was an extra-uterine pregnancy. Both gentlemen in consequence invited me to meet them the next day at the patient's house, to examine the case and bring it to an end.

On April 4th we all met. I found the poor woman lying on a bed in her room, which was scarcely large enough to hold it, in a hut on the heath. She appeared to be much emaciated, was hectic, and extremely weak; the pulse was frequent and small. It seemed as if her sufferings must speedily end in death. To the right of the umbilicus was a sore, with an ichorous discharge, having a sickly odour; the base was hard, and covered with hair. A portion of the abdominal wall formed a bridge over the sore. At first sight, we were involuntarily led to think it a hairy cyst; but to make the diagnosis sure, I introduced my finger into the sore to ascertain if I could penetrate into the abdominal cavity at the brink of the hairy base. My finger passed immediately into the abdomen, and the supposed base presented the feeling of the hard and bony surface of a child's head, of which I could also feel one ear. Herren Vlaanderen and Brinkerink each made an examination, and confirmed my observation.

On vaginal examination, the os uteri could be felt lying high, above and behind the symphysis pubis. By means of the sound, I examined the position, direction, and capacity of the uterus, and by the injection of water I endeavoured to obtain more accurate information as to the extent of the uterine cavity, and to ascertain whether there was a communication between it and that in which the child lay. A very small quantity of fluid only could be injected with difficulty, and we found no communication between the two cavities.

In view of the hectic condition of the woman and her extreme weakness, and of the evident endeavours of nature to get rid of the dead child, it was not difficult to decide on the course which should be followed. Division of the bridge of integument would perhaps enlarge the opening sufficiently to allow the escape of the child. I accordingly did this, and extracted the child through the opening. When the cavity was emptied of the child, it was sponged out and cleaned; and we found that it was about 15 centimetres in diameter, and was lined with a smooth, pale red membrane. To the left (near the umbilicus) the wall of the sac presented a portion of the size of a teaspoon, thicker and firmer than the remainder, and having an umbilical cord proceeding from its centre. This is considered to represent the placenta. When we had satisfied our curiosity, we closed the wound with thread sutures, leaving at the lowest part an opening for the escape of fluid, the separation of the funiculus, and the administration of any injections that might be necessary. The wound healed rapidly to a small portion; the funiculus disappeared on the fourth day; the walls of the sac contracted, and it became smaller daily. There was no appearance of throwing off of the placenta.

The patient's general health improved under the use of a nutritious diet, Peruvian bark, and mineral acids. Diluted solution of chloride of lime was daily injected into the sac.

The woman is now (1875) quite well; but there is still an opening of the size of a pin's head, from which a few drops of blood escape at each catamenial period. This escape of blood from the opening at each catamenial period evidently shows the connection with the genital organs, and the continuity between the wall of the sac in which the child lay, and the uterus, ovary, or Fallopian tube; that, however, there was no ovarian, tubal, or interstitial uterine pregnancy, is evident from the absence of laceration and internal hemorrhage.

Busch says, "Rupture takes place generally between the sixth and sixteenth weeks; but ovarian pregnancy may reach a more advanced stage." Rupture is also preceded by syncope and convulsions, which were altogether absent in the present case. It seems to me that, through the preceding difficult labours and other causes, inflammation and narrowing of the Fallopian tube or tubes took place, so that in the seventh pregnancy the ovum remained outside the uterus. Perhaps the *fimbriae* aided in piercing the sac in which the child was contained, and thereby the connection was maintained.

That we made no attempt to remove the placenta will be regarded as a right proceeding by any one who reflects that the sac containing the child did not present contractions like the uterus, and that therefore the removal might have been followed by fatal hemorrhage in consequence of the vessels remain-

ing open. Besides this, the placenta was clearly a portion of the wall of the sac, and so intimately connected with it that peeling it off was not to be thought of.

That Herr Brinkerink did not feel any part of the child on January 27th, is not much to be wondered at, when it is remembered that Chevillon failed to detect the presence of a fœtus in a case of extra-uterine pregnancy, in which delivery subsequently took place *per anum*. An earlier recognition of the condition of our patient would perhaps have led to no more fortunate result. W. Cambell has shown by statistics that laparotomy, without the endeavours of nature to free itself, yields less favourable results than so-called secondary operations—that is, artificial aid employed when nature is already making attempts to throw off the child.

This case is related in honour of the powers of nature, not as a brilliant instance of our treatment.—*Obstetrical Journal of Great Britain*, July, 1875.

Galactorrhœa.

Dr. A. PUECH (*Gazette Obstétricale*, May 20, 1875) quotes two cases from Dr. LINGI CASA, in which galactorrhœa occurred after the menopause, and then details a similar one in his own practice.

In the first case of Dr. Casa the subject was sixty-five years old, and the secretion was without any obvious cause. Her parents were healthy, and she had no disease. She had given birth to six healthy children, and menstruation ceased when she was fifty-five. About her sixtieth year the breasts commenced swelling, and once a month the swelling was more marked and at the same time painful. After having continued some months this disorder ceased for two years, and then reappeared. Upon examination her breasts were found decidedly enlarged, and upon light pressure they yielded a fluid with all the physical properties of milk. In spite of her age she greatly enjoyed sexual indulgence. She had lost her appetite for food, and was very much constipated. Except a vulval pruritus, she had no disease of the genital organs. Under the use of ergotine the lacteal secretion disappeared in less than a month, as well as the accompanying mammary engorgement.

Dr. Casa's second case is much less significant. The subject was fifty years old; menstruation had ceased for some years, and she died, aged fifty-two years, of uterine cancer, a disease of which her mother died at the same age. When seeking aid for the uterine disease the breasts were found swollen and painful, and discharged a liquid presenting the character of milk, only a little thicker, and having a distinct green colour. The correlation between the development of the uterus and the breasts, a phenomenon formerly called sympathy, is well known. Then, in virtue of this correlation, swelling of the breasts and even galactorrhœa are quite frequently dependent upon organic change in the uterus. In a case of uterine cancer and fibroid the breasts were quite large and secreted a milk-like fluid. After death the mammary gland, carefully examined, presented at the periphery a great number of terminal vesicles, developed in the subjacent tissue, and filled with milk-clots.

Dr. Puech's case was a lady thirty-eight years old, a brunette, of vigorous constitution, whose husband died a month after her delivery of a female child. In her sorrow she gave herself up completely to her infant; and as she had lost all her other children, four in number, she thought it best to nurse this one until the milk should no longer be secreted. This nursing was continued for a long time, until one day her daughter, then seven years old, refused longer to continue the rôle of a baby. Fourteen days after her breasts were found swelled, painful, and the secretion of milk still continued. This habit of the economy it was exceedingly difficult to destroy. Repeated purgatives, iodide of potassium in large doses, diminished the secretion, but did not cause its disappearance, and it did not yield until at the end of two months, to the daily use of white agaric, given in doses increased from fifty centigrammes to one gramme and a half, for ten days. This lady had not the least uterine disease; her menses have not appeared since her last pregnancy, and she is now forty-six years old.—*American Practitioner*, Aug. 1875.

Case of Hirsuties Gestationis.

Dr. CHARLES E. SLOCUM, of Defiance, Ohio, reports (*Medical Record*, July 10, 1875) the following case of this curious and rare malformation.

Mrs. R. has borne three children at full term, and suffered one abortion at six or eight weeks.

A peculiarity that has attended each gestation is the growth of beard on the sides of the face and under the chin. This hairy growth has uniformly started at the commencement of pregnancy, or become perceptible soon after the cessation of the menses, and continued until childbirth, and the uterus has assumed its antefecundated status.

Her attention is first called to the parts soon to be covered with hair, by a sense of heat and itching, which is allayed but a short time by rubbing, and which continues about three months, with more or less annoyance, and then subsides to return again after the accouchment and remain until the falling of the hair.

The hair is thick-set, fine and soft in texture, straight, and lighter in color than the hair of the head. Its length at childbirth is one to one and a half inches, when its growth apparently stops, and after a period of time varying from four to six months (first child six months, second and third children four to five months), or about the time when the uterine system resumes its catamenial function, it falls, and the face assumes its normal smoothness.

This hirsute condition during gestation is the only peculiarity in this lady's history. She has uniformly enjoyed health. The menstrual flux was established when she was between thirteen and fourteen years of age, appeared regularly, and was attended with no peculiarity. From the age of fifteen to the time of her marriage, two years later, she suffered slightly from dysmenorrhœa, but not since marriage.

July 27, 1871, she gave birth to her first child, it being about one year after marriage; November 11, 1872, after one year, three and a half months, to the second; January 12, 1874, she suffered an abortion at one and a half or two months, experiencing but little trouble therewith, and November 13, 1874, ten months thereafter, her third child was born, apparently at full term, as it certainly was in full vigour.

At the time of her abortion the growth of hair on the face was very noticeable, and she became so soon again pregnant that the growth continued until the second conception was completed.

There has been nothing peculiar in the appearance of her children.

Mrs. R. is of medium height and size, with dark-brown hair, hazel eyes, and a fair skin, which becomes of a darker hue when she is in the pregnant state. There was but little nausea following conception, and she was vigorous and able to attend to her household duties at all times. No change or peculiarity other than that already noticed occurs.

This case, which must be classed as so rare as to be exceptional, is but another confirmation of what has long since become an axiom in obstetrics, that, "associated with the pregnant state, and dependent upon its continuance, are numerous manifestations which have their seat in organs so remote that it is difficult, in many cases, to trace the sympathy which exists between them and the special organs of generation.

"There is, in point of fact, no single function of the whole economy which may not be affected by the operation of a cause which has its centre in the generative organs, and which radiates thence throughout the entire system. Consequently, phenomena are frequently observed in distant organs, which are certainly not associated in function with the womb."

Ovariectomy complicated with Pregnancy; Cesarean Operation; Cure.

Mr. THOMAS HILLAS, at a meeting of the Medical Society of Victoria, Australia, held December, 1874 (*Australian Medical Journal*, Feb. 1875), gave this account of the following case: The patient, aged twenty-four years, single,

was admitted to the Ballarat District Hospital June 4, 1872. The history of her case was peculiar. She believed that she became pregnant in March, 1871. She was admitted to the lying-in ward of the Ballarat Benevolent Asylum in November, 1871, and after staying there until the following June, a consultation was held, and she was discharged, her case being deemed ovarian dropsy, and not pregnancy. On her admission to the hospital, she was examined by the staff, all agreeing that she was suffering from ovarian dropsy, and that it was a suitable case for operation. On June 13th, the patient being chloroformed, Mr. Hillas commenced the operation by an incision midway between the umbilicus and pubes. Mr. Hillas says: "On arriving at the peritoneum, I made a small opening into it, when out spurted a large jet of venous blood, which the pressure of the finger controlled. I came to the conclusion I had wounded, unwittingly, a gravid uterus, and feeling sure of this, I extended the first incision upwards to the umbilicus, when a large uterus rolled out on to the thighs, and the ovarian sac protruded." The latter was tapped, and about eleven quarts of fluid withdrawn. The pedicle was short and thick, and after being tied firmly with a double whip-cord ligature, the clamp was securely applied, and the pedicle divided, the ends of the double ligature being tied over the ends of the clamp. The question then arose, what was to be done with the uterus, which was all this time lying on the thighs, with a foetus in it, and a wound through its muscles, probably into the placenta.

Some advised that the wound should be sewn up, and the organ replaced in the abdomen; but seeing that labour must soon come on, and thinking that rupture of the uterus would most likely occur at the seat of injury, Mr. Hillas decided to perform the Cæsarean operation, as being the most likely means of giving the patient a chance to recover. The uterus was incised to about five inches, and the placenta and a foetus, alive and well developed, at about the eighth month of gestation, extracted. The wound in the uterus was then closed with silver-wire sutures, the cut ends being carefully tucked down into the incision. The uterus then contracted firmly. The wound of the abdomen was then closed, the clamp being left at the lower margin of the wound, and a good deal dragged upon. The right ovary was the one affected. The patient measured sixty inches around the abdomen before the operation. The sac and its contents weighed thirteen pounds. The patient vomited for about forty-eight hours after the operation, having been an hour under chloroform. This was relieved by morphia and ice, and on the fourth day all unfavourable symptoms abated. There was a discharge of pus from the lower portion of the wound, which ceased in about a fortnight, and then it completely healed. She was discharged, cured, at the end of six weeks. On July 3d, a month after the operation, she menstruated moderately for four days, and again on August 28th.

Mr. Hillas has seen her several times since, and reports her to be in perfect health.—*Medical Record*, July 31, 1875.

A Fibroma Molluscum Cysticum Abdominale.

Prof. VIRCHOW presents (*Archiv für Pathol. Anat.*, B. lxiii. H. 4) the following interesting report of this rare case. "A short time since, Dr. Kugler, of Stettin, forwarded me from Pomerania a retro-peritoneal tumour which Mr. Spencer Wells, who had extirpated it, regarded as of great rarity. According to Dr. Kugler's report, seven litres (twelve pints and a half imperial) of pus were discharged from the cavity of the tumour; the right ovary, which accompanied the tumour, as well as the left, which remained in the abdomen, being quite healthy; and, in fact, the right ovary, which, with the abdominal half of the tube, was in contact with the tumour, and had been separated at its attachment to the ligamentum ovarii, exhibited no disease, and was small, flat, and compact.

"The tumour itself, after the discharge of the pus, had collapsed into a flat, roundish mass, measuring thirty centimetres in diameter, and six or seven in thickness. Lying loose over the greater part of its tolerably even surface, indicating their former positions, were layers of soft, slightly œdematous, and

very vascular fatty and connective tissue. Besides the larger opening, which led into a great cavity, there were two ruptured places, through which protruded large lumps of a soft, flocculent-looking substance. Internally, the surface of the cavity, which was rather eccentrically placed, and about the size of a head, had in no wise the appearance of an ordinary cyst, its very thick wall seeming to consist at its outer part of a coarse reticular structure, and inwardly of irregular fibrous layers in a state of suppuration. The meshes were very loose, and traversed by broad vessels and numerous disseminations, which proved, on microscopical examination, to be collections of nucleated cells, almost of a sulphur-yellow colour. The appearance strongly reminded me of the condition of the pleura in one of the forms of chronic empyema.

"Beyond this condition, the rest of the tumour consisted of very well preserved, fresh tissue, the yellow-punctuated colouring only being observed at a few places. The somewhat thinner exterior wall to some extent resembled the wall of the uterus after delivery, and consisted of a very firm fibrous tissue, with wide vascular apertures, very succulent, and of a white or grayish-white colour, the direction of the fibrous masses being for the most part parallel to the surface. The thicker mass of the other portions consisted of strong white bundles, in the midst of which large vessels were visible, and of a more transparent, almost gelatinous, intermediate tissue. The bundles were very elastic, so that when torn or divided they retracted easily, and became thicker. At these spots the mass assumed a softer appearance, occasionally almost resembling cerebral substance. Microscopical examination exhibited fibrous tissue, but without any trace of organic muscular substance. The fibres were delicate and soft, but less wavy than in ordinary connective tissue. Under acetic acid the tissue did not become clear, and in direct light appeared of a dirty white; and although the fibres disappeared, there remained a peculiar granular, striped appearance. No filamentous or membranaceous deposit occurred, so that no peculiar mucus (*Schleim*) was present. When sections were made of the solid bundles, after the application of acetic acid, fine spindle-shaped and branched cells (*Netzzellen*) were observed; but in the intervening soft tissue, like in many soft uterine myomata, large round cells in great number were found, having here and there a strong disposition to fatty metamorphosis. The structure of the vessels was most remarkable. The capillaries, which were proportionally very large, as well as the numerous small veins, exhibited, after the use of acetic acid, a distinctly cellular structure of their walls, large clear nuclei being distributed over the whole field in regular oblong series.

"We have to do here with that form of tumour for which I have introduced the term 'fibroma molluscum' (*Geschwülste*, Band 1, 323), and which occurs most frequently in the sexual apparatus. Such a tumour of the mons veneris I described long since (*Gesammelte Abhandlungen*, p. 463) as a cystoid. Soft uterine myoma and myosarcoma offer much resemblance to it (*Geschwülste*, Band 3, 199, 202), especially in regard to softening, inflammation, and ulceration. Analogous forms occur not merely in the ovary itself, but also in the ligaments and the vicinity of the ovary (*Geschwülste*, Band 3, 221, 228). How far the foregoing case is to be ranked with these, I cannot decide, as I do not possess any exact information as to the situation of the tumour. But the fact that the operation was undertaken would seem to imply that some connection with the ovary also existed.¹ Among all these cases this one exhibits a truly remarkable example of the cystoid metamorphosis of a tumour in itself solid. The successive cystic formation and inflammatory action resemble the formation and subsequent inflammation of subcutaneous bursæ."—*Med. Times and Gaz.*, July 24, 1875.

¹ We are informed by Mr. Spencer Wells that the tumour was distinctly retroperitoneal, being merely connected with the ovary and the tube by loose connective tissue. The ovary was only removed in order that the hemorrhage might be more effectually and easily controlled. It is of interest to add that the patient operated upon in the middle of Pomerania has recovered under the care of her medical attendants, Drs. Schoenfeldt and Kugler, of Stettin.—*Translator*.

Follicular Dropsy of the Ovary.

Dr. J. MATTHEWS DUNCAN, in the course of his address on opening the Section of Obstetric Medicine at the recent annual meeting of the British Medical Association (*British Med. Journal*, Aug. 7, 1875), said: "I take this opportunity of stating a conviction I entertain, which is founded on considerable experience. We all know how far from uncommon are those simple follicular dropsies of the ovary, seeing them in autopsies as very thin-walled cysts, often less in size than an orange. Such cysts are, I am sure, the source of much difficulty in practice, and a retrospective diagnosis of them may be formed in this way. A distinct ovarian swelling is found, larger than any ovaritis ever grows, clearly diagnosable as an enlarged ovary; but the diagnosis cannot be made more exact. The commencement of an ovarian dropsy is dreaded. After a time, the tumour disappears. Frequently its disappearance is accompanied by adhesive perimetritis. Now, what has happened in these cases? Of course, it may be said that it is a case of mere ignorance, or that the cysts were parovarian; but, to this latter explanation, there is, for me, the great objection that the cases occur more frequently by far than to admit of their being justly so explained. We must suppose, therefore, the bursting of the not infrequent small follicular dropsies. I would further add that the bursting of simple parovarian cysts does not appear to me to be followed by perimetritis, or accompanied by it, so generally in the case of the disease of which I have been speaking."

Parovarian Cysts.

In the same address, Dr. MATTHEWS DUNCAN says (*Brit. Med. Journ.*, Aug. 7, 1875): "In connection with parovarian cysts, a great step of good progress in practice has been made, and progress also in pathology. Such cysts used generally to be described as never reaching a great size, but this is not true. They do certainly attain enormous dimensions, so as to be in competition in this respect with true ovarian cystic disease. After death, or when they are removed by gastrotomy, they may, at least frequently, be easily distinguished by characters which Bantock has recently described; chief among them are the non-implication of the ovary, the almost invariable unilocularity (not surgical, but pathological or absolute unilocularity), and the easy separation of the peritoneum from the internal coat of the cyst-wall. During life, they are also, at least occasionally, diagnosable by examination of the fluid withdrawn by tapping from examples of them which have never been inflamed. Then we find the fluid to be limpid or very slightly opaline, of very low specific gravity, containing little or no albumen, and having in solution only a little saline matter, chiefly chloride of potassium and of sodium. Such cysts have been long known and partially described. Even yet they are imperfectly described; but it is interesting to note a kind of identification of them in those ovarian cysts which Boinet found to be most readily cured by the once famous iodine injection. Only the important fact is now known that many at least of such cases are far better cured by mere tapping than by that combined with iodine injection; and the practitioner should always keep in mind these propitious circumstances when he meets with cases of this kind. The subject of parovarian cysts, when fully made out, will be still further interesting and fruitful in gynæcology; for already we may presume that the numerous kinds and examples of cures of ovarian dropsy, without resort to ovariectomy, which have been described by many, including the highest authorities, were merely examples of delusion arising from imperfect knowledge. We know no one example of the cure, otherwise than by the operation of Ephraim McDowell, of an ovarian dropsy properly so called; not one, however many may be found described, or whoever may be the describer. Cures by one or moreappings, cures by medicines, cures by spontaneous rupture, cures by advancing pregnancy, have been, if not mere egregious mistakes, almost certainly cures of parovarian cysts whose history, as already known, quite accords with and explains such

erroneous allegations. These remarks are based chiefly on observations of parovarian cysts that have never been inflamed. The study of inflamed cysts is still in a very backward state. Their pathology and treatment are matters of great difficulty. It must also be kept in mind that simple inflammatory serous collections take place in the peritoneum, and may be mistaken for parovarian cysts."

Medical Jurisprudence and Toxicology.

Responsibility in Mental Disease.

Among the criminal cases at the Assizes at Maidstone last week was a trial for wilful murder, which is well worth a few moments' consideration, as it once more brought out the old conflict between legal science and medical science as to responsibility in mental disease.

George Bampied, a man of middle age, a shipwright, was indicted for the wilful murder of James Catt, at Chatham, on April 16 last, and pleaded not guilty. The men had both been for some time employed in the masthouse in Chatham dockyard, and some months before had had an altercation, but since then had apparently been on good terms. On the date mentioned they were at work on the same mast, about six feet from each other, and from thirty feet to sixty feet from any other workman. Suddenly some of these other workmen heard a sound as of a blow, and a cry; one of them ran towards the two former-named men, and saw the prisoner standing with his adze in his hand; being frightened he went back for assistance, and on returning, the prisoner, who had put the adze down, said that Catt, the deceased, had taken his (the prisoner's) adze and killed himself with it. It was said that the prisoner seemed quite calm and collected, and there was nothing unusual in his appearance. The inspector of police gave evidence that the prisoner came to him and reported—"I was employed in the masthouse, and when I turned round, James Catt, who was employed with me, took hold of my adze and struck himself on the head with it, seriously injuring himself." When asked if the man was dead, he replied, "No; I don't know about that," and added, "he is at the surgery; he was a good mate, a good workman, and a good fellow;" and when charged with murder said, "I didn't do it; he did it himself." This, it is to be observed, was absurdly impossible; the wound was at the back of the head, and had been inflicted with such force as to "nearly break the head in pieces." The surgeon of the police, who saw the prisoner next day, asked if he knew why he was there, and he replied, "I knocked my mate on the head, and the stupid fellow fell down dead." "Then you killed him?" said the surgeon; to which the reply was, "I knocked him on the head, and he fell down dead." The surgeon also stated that in December, 1868, he had signed the certificate for the removal of the prisoner to Barming Lunatic Asylum as a lunatic, where he remained till December, 1872, when he was discharged as cured.

The counsel for the prosecution argued that the prisoner had cherished a grudge against his mate, had yielded to a sudden impulse to murder him, and that all the circumstances of the act, and especially the prisoner's denial of it, were consistent with perfect sanity, and indicated a perfect consciousness of guilt. The defence was that the prisoner's act was an act of insanity; that he had been insane; was insane at the time that he committed the act for which he was being tried; and was not responsible for it. It was proved, as we have stated above, that the man had been in a lunatic asylum from the end of 1868 to the end of 1872. The surgeon to the dockyard stated that he had attended him in April, 1874, for "swimming of the head," and in October, 1874, for melancholia. The surgeon to the gaol said that he believed the

prisoner to be of unsound mind on the subject of religion. The medical attendant of the asylum in which the prisoner had formerly been, stated that he then suffered from religious melancholia, and that his grandfather was insane, and one of his sisters.

There could be no doubt that the prisoner had killed his comrade. No one but he could have done it. But he had an insane family history, and an insane personal history; the act for which he was being tried was an insanely motiveless and sudden one; and the defence he himself offered was an insane defence. It would surely be difficult to find a clearer case of impulsive insanity. The learned judge who tried the case—Mr. Justice Brett—however, repudiated the “medical theory of insanity” set up as a defence; declined to allow any weight to an opinion from Taylor’s *Medical Jurisprudence*, as, “though Dr. Taylor was a high medical authority, he was not a lawyer, and was no legal authority at all;” and summed up strongly against the prisoner. He set forth clearly and forcibly the well-known legal doctrine that it is not enough for a man to be mad in order to obtain exemption from responsibility for a criminal act, but he must be so mad as either not to know what he was doing, or not to know that it was wrong. He allowed that, in this instance, there was no doubt the prisoner had been insane, and might have been so at this time, and, indeed, that it would be better to assume that, at this time, he was of unsound mind. But, he said, the question was not whether he was of unsound mind, but whether he was so insane as not to know the nature of the act he committed—that is, that he did not know that he was killing a man, or that he did not know that he was doing wrong in killing a man. If the jury were satisfied of this, then they would acquit the prisoner on the ground of insanity; otherwise they were bound to find him guilty of murder; and he solemnly adjured them to do their duty, which was to answer truly as to the facts. The ultimate responsibility as to the man’s fate would rest with others; but their duty was simply to find their verdict with reference to the truth of the case, and the effect of the evidence.

The jury, after a consultation of about a quarter of an hour, returned a verdict of “Guilty, but not accountable for his acts;” and the prisoner was ordered to be detained during Her Majesty’s pleasure.

The judge was no doubt right in clearly stating the legal view of responsibility; but as doubtless, we think, the jury were right in taking what in this case we should call the common-sense view, enlightened and guided by medical experience and science. It would have been simply impossible to hold that the prisoner had been guilty of wilful murder, and if the jury had returned that verdict the Home Secretary would have had to alter it. Yet we are told by the daily press, or at any rate by a most influential portion of it, that the judge’s charge was in perfect accordance with scientific truth, as well as with public policy. And we are told further that “if Bampied, when he began to think about killing his fellow-workman, had also thought about being hanged for doing it, the probabilities are that the second idea would have prevented the first from being predominant, and that even when the opportunity arose the fear of punishment would have arrested his hand.” This, as has been well said by one of our most able writers on the subject, “ignores entirely the real nature of insanity as a *disease*, for which the victim is certainly not altogether responsible, and which may render him irresponsible for what he does. . . . Were one-half the lunatic population of the country hanged, the miserable spectacle would have no serious effect upon the remaining half, and assuredly would not deter a single insane person from doing murder, any more than convulsions would be prevented from occurring from henceforth by hanging all persons who fall into convulsions.” We medical men know, as a positive fact of observation, that there is such a disease as impulsive insanity; that sometimes insane persons are driven to commit, or to attempt to commit, homicide by a blind, instantaneous impulse, independent of the will, when they act “without passion, without delusion, without motive.” In such melancholy cases it is idle to talk of the power of self-control, or of thinking and reasoning; no ideas of punishment can present themselves; reflection and

will are swallowed up and lost in the one violent impulse that entirely and irresistibly possesses the unfortunate insane being.

The attempts to apply the legal view of responsibility in mental disease to such cases as these, may lead, as it has led, to legal tragedies inexpressibly sad and painful; but we allow that the doctrine of irresponsibility may rightly be regarded by the public with much jealousy, for no doubt the insane in our asylums are to some extent managed, and excited to exercise self-control, by the fear of closer restraint or of the curtailment of their indulgences if they yield to their violent propensities. But this system of management may easily be carried too far, and a patient who is at one time, or usually, amenable to such motives and influences, may at another time be utterly beyond the reach of all moral influence, and absolutely incapable of any degree of self-control. In the case before us we hold that the prisoner, allowed even by the judge to be of unsound mind, was the victim of a blind, sudden, irresistible, insane impulse to homicide, and was, therefore, as the jury decided, irresponsible.—*Medical Times and Gaz.*, July 31, 1875.

Hygiene.

Enteric Fever and Milk Supply.

Dr. E. DUNCAN has prepared a careful report on the recent epidemic of enteric fever in Crosshill and Eaglesham. He commences by explaining, in terms which can be generally understood and appreciated by the non-professional portion of the public, how this disease may be spread; one of his main objects being to remove the general ignorance prevailing on this subject, in the hope that, by so doing, the public may exhibit more interest in sanitary questions. Dr. Duncan at the onset expresses the conviction that enteric fever does not arise *de novo*, and that the cases in which the disease does appear to originate simply from the inhalation of decomposing animal matter, are really instances in which the poison has been communicated by some article of food: a method of infection illustrated by his report. The outbreak in question commenced in the month of January last, in Crosshill, near Glasgow. It appeared to die out after the middle of February, but recurred with renewed violence after that date, about 280 cases occurring up to the end of March, in a population not exceeding 14,000. The inquiry into the means by which the disease was spread appears to have been conducted by a process of exclusion, the various conditions favouring such spread being considered separately. The nature of the soil is first dealt with, reference being made to Prof. von Pettenkofer's views on this subject; but consideration of this subject led the writer to conclude that the soil had no connection either with the origin or the spread of the fever. The prevailing atmospheric conditions are next briefly adverted to, and also set aside. The various conditions of sewerage and drainage are dealt with at some length; and although defects were found, as might have been expected, yet, in many of the houses where the disease appeared, some of those defects which are so much associated with the spread of this disease were absent, and in other houses, which were not affected, grave defects were discovered. In short, it is evident from Dr. Duncan's description, that the epidemic was not caused by defects of sewerage, although it was probably to some extent propagated by them. With regard to the water-supply, it does not appear to have been at fault; and it is specially pointed out by Dr. Duncan that although the water-supply is an intermittent one, yet, since the water-closets are in every case supplied by means of a cistern, such pollution of water as arose at Caius College and at Lewes cannot have taken place. The pollution to which water may be subjected in the mains is, however, by no means limited to suction of foul matters from closet-pans in the manner in which it occurred at the two places named. Foul and even excrementi-

tious matters can be drawn into the mains from the soil which they traverse, wherever there is a cracked or faulty pipe, and the supply is an intermitting one; the filth being taken up by the water, or deposited in the house-cistern; and we have but little doubt that some of the deposit in our London cisterns reaches the mains in that way. It does not, however, appear that any such mishap caused the epidemic under discussion, there being an absence of any evidence implicating the water-supply. Finally, Dr. Duncan considers the question of the milk-supply. This subject is examined at considerable length, and the result of the investigation tends in the strongest manner to show that the disease was spread through the agency of this article of diet. Enteric fever had prevailed for some time in a certain district whence a considerable portion of the milk-supply was derived, and it had attacked the families of farmers whose milk was conveyed to the affected locality. Indeed, out of a total of 262 families receiving milk from what we may now term the suspected dairies, 94 were attacked with enteric fever; whereas, out of 242 families receiving other milk-supplies, only 18 were affected, and of these 18 families it was ascertained, on subsequent inquiry, that 10 got occasional supplies from the suspected dairies. With regard to the remainder of these exceptional cases, it is only a matter of surprise that the number was so small, in view of the large area over which the epidemic was spread.

With regard to the method in which the milk of the various farmers became infected, we cannot now follow Dr. Duncan throughout the many details with which he deals; but one example is well worth recording. In November last, enteric fever attacked the family of a dairyman at Eaglesham. On his premises was a dung-stead which partly drained towards and into two wells, the contents of which were used for the dairy and farm purposes, and which were also drunk by persons residing in a back row. In December, the residents of this row were attacked with enteric fever, the stools of as many as twenty patients being thrown into adjoining privies. Constant soakage must have taken place from the privies towards and into a streamlet close by; but just at this date the privy-contents were frozen up and the soakage was thus stayed for five weeks, at the end of which time a thaw ensued, rain came on, and the accumulated contents of the now specifically diseased privies soaked and drained towards the stream. This watercourse, which also receives some of the drainage from the dung-stead above referred to, formed the principal source of water for another dairy-farm; and, following on this thaw, both the farmer's family and the persons residing within the area of the distribution of his milk became affected with enteric fever. This indicates very clearly the wisdom and propriety of a sanitary survey of farms from which a town milk-supply is drawn; such, for instance, as is regularly instituted by the Aylesbury Dairy Company for all its farms.

The whole history of this epidemic has been carefully worked out by Dr. Duncan, and a perusal of his report will repay those who are interested in such investigations. His views concerning the spread of this outbreak are also confirmed by the opinion of Dr. Littlejohn, who promises a further report on the subject, but who has already, as the result of an inquiry made on behalf of the Board of Supervision, expressed his conviction that the importation of the disease into the affected district had been conclusively traced to the use of an infected milk-supply.—*British Med. Journal*, July 10, 1875.

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(For List of Contents see last page.)

OCTOBER, 1875.

Anatomy and Physiology.

On the Canals which are supposed to connect the Bloodvessels with the Lymphatics.

J. TARCHANOFF (*Archives de Physiologie*, July, 1875) reviews the opinions of Kölliker, Virchow, von Recklinghausen, and specially of Arnold upon the direct communication of the blood with the lymphatic vessels. He has injected the bloodvessels and lymphatics of the web of the frog's foot with Prussian blue solution, either alone or mixed with gelatine. Even after ligation of the veins of the limbs, followed as it is by œdema, the author's uniform result was that the injected mass was never found outside the walls of the vessels, unless there had been rupture of the walls of the vessels, when the mass spread itself between the interstices of the connective tissue outside. As to the injection of the corpuscles of the connective tissue by such a method, the author believes that such a view is quite untenable. He utterly denies the existence of a set of canals connecting the blood-vascular and lymphatic systems.—*London Med. Record*, Aug. 16, 1875.

Experiments on the Brains of Monkeys, with especial Reference to the Localization of Sensory Centres in the Convolutions.

A paper on this subject by Dr. DAVID FERRIER, of London, was presented at the late meeting of the British Medical Association (*British Med. Journ.*, Aug. 28, 1875). The experiments on which the following conclusions are based were supplementary to those of the electrical irritation of the brains of monkeys, already published in the *Proceedings of the Royal Society*. They were recorded in detail in the Croonian Lecture read before the Royal Society in May last. In the absence of Dr. Ferrier, Dr. Lauder Brunton gave a brief summary of the main results. The method followed was the comparison of the effects of electrical irritation with those following localized destruction of parts of the brain by means of the actual cautery and scalpel. The two sets of experiments supported and explained each other. The most important fact demonstrated by this series of experiments was the localization of regions of special sense in the convolutions; and this, along with localization of centres of motion proper, served to clear up the true significance of the reactions to electrical stimulation. 1. Destruction of the frontal regions of the brain, which gives no reaction to electrical stimulation, is without effect on sensation or voluntary motion, but causes marked impairment of intelligence and of the faculty of attention. 2. Destruction of the gray matter of the convolutions bounding the fissure of Rolando causes paralysis of voluntary motion on the opposite side of the body, sensation remaining unaffected; while lesions circumscribed to areas, previously localized by the author, caused paralysis of voluntary motion limited to the muscular action excited by electrical stimulation of the same regions. 3. Destruction of the angular gyrus causes blindness of the opposite eye, the other senses and voluntary motion being unaffected. This blindness is only of temporary duration, provided the angular gyrus of the opposite hemisphere remains intact. When both are destroyed, the loss

of visual perception is total and permanent. 4. Destruction of the superior temporo-sphenoidal convolutions abolishes conscious reaction to auditory stimuli, the other senses and voluntary motion remaining unaffected. The results of destruction, taken with the effects of electrical stimulation of this region, indicate that it is the centre of auditory perception. 5. Destruction of the hippocampus major and hippocampal convolution abolishes the sense of touch on the opposite side of the body. 6. Destruction of the *subiculum cornu ammonis*, taken with the results of electrical stimulation, indicates that this is the seat of the sense of smell for the same side of the body. 7. Destruction of the gray matter of the lower part of the temporo-sphenoidal lobe in immediate relation to the region of olfactory perception abolishes the sense of taste. 8. Destruction of the optic thalamus causes complete anaesthesia of the opposite side of the body. 9. Ablation of the occipital lobes produces no effect on the special senses or on the powers of voluntary motion, but is followed by a state of depression, with refusal of food, not to be accounted for by mere constitutional disturbance. In one case, which survived the operation for three weeks and was then killed, the appetite returned: a phenomenon probably to be accounted for by compensatory association. The sexual appetite, however, was exhibited during the first few days after the operation, as judged by the behaviour of the animal to a companion monkey. 10. Ablation both of frontal and occipital lobes in one monkey did not interfere with the powers of sensation or of voluntary motion.

The Chemistry of the Blood.

In a recent communication to the Académie des Sciences, M. GAUTHIER describes a series of experiments on the influence of salt on the coagulation of the blood, an extension of the observations of Hewson, Davy, Dumas, etc. He found that the known effect in retarding coagulation was produced equally by chloride of potassium and by chloride of sodium, and that the maximum influence was obtained, in the case of the blood of the bullock, sheep, dog, and rabbit, when the proportion of the salt was 5 or 6 per cent. The retardation amounted to nearly twenty-four hours. A larger proportion had less effect. The corpuscles preserved their form, and even exhibited slight contraction, and, by simple filtration, could be separated from the plasma. The plasma could be preserved almost indefinitely as a clear liquid, coloured a slight rose tint. On the addition of water, which of course lessened the percentage of salt, it formed a firm and transparent coagulum. The plasma he found could be dried in a vacuum, and reduced to a grayish powder, which would redissolve in the same quantity of water, the resulting solution speedily coagulating on the addition of more water. The dried plasma did not lose its property by exposure for an hour to a temperature of 110° C.; its solution in water coagulated on dilution just as did the undried plasma. The coagulability of bullock's blood was unaffected, he found, by hydrocyanic acid, cyanide of potassium, arsenite of soda, strychnine, curara, or sulphuretted hydrogen; but the clot had less contractility, and yielded a smaller amount of serum, especially when arsenite of soda or cyanide of potassium has been added. M. Gauthier considers his experiments fatal to the idea that the coagulation of the blood is in any degree a vital act, a theory which had indeed already sufficiently vanished. He thinks that the red corpuscles yield to the serum carbonic acid, and that that is the determining cause of the coagulation. He does not appear to have made any special experiments to determine this point, which should easily be settled. The theory is hardly consistent with some of the known experimental facts.—*Lancet*, Aug. 7, 1875.

Materia Medica and Therapeutics.

The Action of Certain Drugs on the Secretion of Bile.

Prof. RUTHERFORD, in his Address in Physiology, before the British Medical Association (*Lancet*, Aug. 14, 1875), explained the results of a series of experiments he had made in reference to the action of certain drugs on the biliary secretion of the dog. These results, briefly stated, were as follows; Croton oil was not found to be an important hepatic stimulant: podophyllin stimulated the liver enormously, and caused the production of a bile almost the same as that which was secreted without its action; aloes was a very distinct hepatic stimulant, and produced less intestinal irritation than podophyllin; rhubarb never failed to increase the secretion of bile, almost the same in character as that secreted without its help, while it caused less intestinal irritation than either podophyllin or aloes; senna stimulated the liver, but not to the same extent as rhubarb, and it seemed to render the bile more watery; colchicum caused the secretion of a large amount of biliary matter; taraxacum stimulated the liver, but not to any very great extent; scammony excited the liver, but not to a marked extent; calomel increased the secretion of bile in one experiment, but three others appeared to show that it was not a hepatic stimulant, at all events in the dog; gamboge produced strong intestinal irritation and profuse purgation, with a fall in the secretion of bile, probably owing thereto; castor oil showed decided purgative action, but produced a slight stimulation of the liver; alcohol did not increase the secretion of bile. It thus appeared that podophyllin, rhubarb, aloes, and colchicum had the most marked effect in increasing the biliary secretion of the dog; and as to their mode of operation, it appeared most probable that they were absorbed and directly affected the liver, though on this point it was not professed that anything had been definitely settled. A far more important practical point was the following: How was it that these experiments proved podophyllin to be a hepatic stimulant, while in the experiments of the committee presided over by Dr. Bennett it was found that that substance diminished the amount of bile secreted? The only apparent explanation was that in the present experiments the dogs had been kept fasting for seventeen or eighteen hours, while in those of the committee they had had their usual food. The clinical observer would probably accept the facts as not opposed to clinical experience as regarded man, except in respect of calomel. It had simply been shown that while there were a number of substances supposed to be cholagogues in man which excited the liver of the dog, calomel was not one of these, although in the dog, as in man, it produced purgation, and although the researches of Dr. Bennett's committee conclusively showed that dogs could be salivated by mercury as well as man.

Diuretics.

There exists no class of remedies so intimately wrought in with physiological knowledge for their rightful application in practice as diuretics. The well-worn formulæ evolved by experience and largely used in a routine way by practitioners usually contain various forms of agents which increase the bulk of urine; but in their synthesis empiricism has received no aid from physiological research. Such formulæ, then, really are happy guesses; the guess having some direction given to it by close observation and comparison of different cases. They are creditable to the careful watchfulness of our predecessors in medicine, and demonstrate how much we owe to empiricism during long ages, ere science came to plant her finger-posts along what had been but wandering tracks, found and kept by few, and lost by the majority, who wandered on in aimless helplessness. In order, then, to comprehend the action of various diuretics, it is necessary to remember the structure and function of the kidney, its relations to the vascular system, as well as its depurative action.

One of the chief functional uses of the kidney is to excrete water. For this end, it is in peculiar and intimate relations with the circulation. In the kidney, the renal artery, itself but a short branch from the main trunk, breaks up rapidly into numerous minute arteries. These again suddenly break up into very fine and minute vessels, with extremely thin walls, through which the water of the blood escapes readily into the uriniferous tubules, and so passes away. In consequence of this rapid subdivision of an artery of considerable size springing off from the aorta, the flow of water in the kidney is in very close relationship to the blood-pressure within the arterial system. If a draught of water be swallowed, it passes readily from the stomach into the blood-stream, the bulk of blood is increased, there is increased blood-pressure, and a rapid flow of urine follows. Every variation in the condition of the elastic arterial system is readily felt in the kidney. If there be much tension, then the flow in the tubules is free; when the blood-pressure is low, the secretion is languid. In practice, it is a matter of great moment to recognize what Traube has so much insisted upon, namely, the relations of water-excretion to the condition of the vascular system. Every day we see this, that is, if we are prepared to look for it. The on-come of cold weather, and especially the first days of frost, increase the bulk of urine, and the calls to empty the bladder, very distinctly in most people. The cold contracts the vessels of the skin, and so raises the blood-pressure in the arteries, and an increase in the bulk of urine results. When the first warm days of spring induce free action in the skin, it is noticed that there is a palpable diminution of the bulk of urine. In the same way, we note how the bulk of urine falls in heart-disease; less and less is the volume of water passed, as the failure of the heart becomes more and more pronounced; the first effect of remedial agents in heart-disease, and the most cheering evidence that they are doing good, is the increased flow of urine. As soon as our agents affect the circulation and increase the blood-pressure in the arteries, the effect is visible in the flow of urine. Thus, in the administration of digitalis, squill, and similar drugs, we increase the bulk of urine by the effect of these agents upon the circulation. More careful experiments have been performed in connection with digitalis than with any other vascular diuretic; and we know that, while this drug is so pre-eminent a diuretic in cases of failing circulation, it does not increase the bulk of urine in healthy persons; indeed, in toxic doses it produces arrest of the renal secretion. Of old, practitioners said that diuretics relieved the circulation, and that digitalis relieved the failing heart by getting rid of much water from the blood and so reducing its bulk. Even yet there are some who say that digitalis always acts best upon the heart when its diuretic effects are most distinct. This is a curious but not incomprehensible inversion of the facts of the case. Really, the flow of urine is the most satisfactory evidence of the effect of the drug upon the circulation.

So much for the relations of the vascular system and the flow of water through the kidneys. While recognizing clearly the relations of bulk of urine to blood pressure, it must also be borne in mind that the vaso-motor supply of the renal vessels is large, and functionally very active. By means of rapid dilatation of the renal vessels, a large flow of urine can be attained without much change in the blood-pressure. In cold weather, there is every reason to believe that not only is the general arterial tension increased by the contraction of the cutaneous vessels, but that there is an active dilatation of the renal vessels. This is rendered probable by the known relations of the kidney and the skin, and the effect of certain agents. For instance, draughts of fluids, especially if alkaline or alcoholic, in cold weather increase the flow of urine; in summer they increase the perspiration. Those who take potash persistently, and their number in these meat-eating days is legion, especially comparatively young men, note how their draughts of potash-water drench them with perspiration in warm weather. When the skin is acting freely, the amount of fluids consumed has but little effect upon the bulk of urine. In cold weather, when the skin is marbly and dry, the amount of fluids consumed exerts but little influence over the cutaneous transpiration. The play back and forward betwixt the skin and kidneys is very interesting and instructive. Some agents act upon the vessels of the kidney, dilating them, doubtless through the medium of the

vaso-motor nerves, and so increase the flow of urine. These are diuretics in the truest sense—simple diuretics. It is obvious that such agents may be profitably combined with others which increase the blood-pressure. Such a combination is probably attained by the union of juniper and digitalis. In many instances, such a combination would be very desirable. It must not be asserted too positively that the vascular diuretics do not exert some special action upon the renal vessels; that, in fact, while producing a contracting effect upon the bloodvessels generally, they dilate the bloodvessels of the kidneys. If, indeed, they produced contraction in the renal vessels in strict proportion to their effect upon the rest of the vascular system, they would not produce an increased flow of urine: the effect upon the renal vessels would exactly neutralize their action upon the vascular system generally. It is necessary to be very clear upon this point, else it is impossible to read aright the effects of chronic Bright's disease upon the bulk of urine. It is well known that in the earlier and middle stages of granular kidney there is a great flow of urine. It is also well known that during these stages there are high blood-pressure, a low pulse-curve with the sphygmograph, accentuation of the aortic second sound, and hypertrophy of the left ventricle. There are, indeed, all the evidences of a high blood-pressure and a large flow of urine. When the heart begins to fail, then the bulk of urine falls step by step with the cardiac failure.

There are cases, however, where all these evidences of the state of increased arterial tension exist without there ever being a notable increase in the bulk of urine. What are, then, the lessons taught us by such cases?

They are these. While in the majority of cases there is increased blood-pressure due to an hypertrophied condition of the muscular portion of the vascular system, the renal vessels are not equally affected, and thus the increase in the blood-pressure produces an effect upon the urine; in other cases, there is hypertrophy of the muscular walls of the renal arteries sufficient to neutralize the rise in the blood-pressure, and so there is no increase in the bulk of urine. Clinical observation would tend to show that the latter class of cases is much rarer than the former. The rule certainly is that the condition of vascular tension and the bulk of urine are intimately related to each other.

In those cases, then, where we wish to excite a large flow of urine, it is well to combine together in one prescription agents which dilate the renal vessels with agents which raise the blood-pressure. Some diuretics, and especially the various salts of potash, are actual depressants of the circulation, and in many cases, especially when the heart is weak, it is desirable to counteract the property by combining potash with squill or digitalis; in many cases of atonic gout this is very necessary.

The kidneys are also largely associated with the elimination of nitrogenized waste. The products of histolysis, and the waste of albuminoids split up in the liver to form glycogen—the cinders of the body-combustion—are cast out of the system by the kidneys and the skin. As in the excretion of water, so in the elimination of azotized waste, the kidneys and the skin preserve their intimate relation. When we wish to increase the elimination of solids by the urine, we do not, or at least ought not, to give a diuretic which possesses its diuretic effect by means of its action upon the vascular system. This is useless. But, instead, we give potash, buchu, and other agents which act upon the kidney itself. By these means, we increase the elimination of urine-solids. In many cases, especially in those cases of Bright's disease where there is a large flow of urine of low specific gravity—not a mere case of dilution of urine-solids, but a positive decrease of the solids, with increase of the bulk of water—it is desirable to give potash in infusion of buchu. In the scanty urine of advanced heart-disease laden with lithates, such mixture would produce no good results, probably, in most cases, only depress the heart's action further; while vascular diuretics are the agents required by such a condition. In that form in which azotized waste is most permanent in the body—viz., lithic acid—potash increases the bulk of urine-solids by rendering the lithic acids soluble, so that, as lithate of potash, it drains away in the water of the kidney. There are thus diuretics which increase the bulk of urine-solids, and diuretics which possess the property of increasing the amount of solid excreta in the urine. They are

totally distinct agents, not to be confounded with each other, not to be substituted for each other, but often to be combined together with advantage. Whenever, then, we wish to act upon the kidney, we must first clearly recognize what it is we wish to achieve, and then to prescribe accordingly. If there be a condition of urine laden with lithates, then potash is indicated. If at the same time the vascular system be atonic, and the heart act feebly, then it is desirable to give squill or digitalis as well. It is not inconsistent to give a vascular diuretic with one which increases the excretion of urine-solids; but it will not do to give one for the other, as if they could be substituted for each other. With either, or with both, may be given a simple diuretic which induces renal hyperæmia.

In the earlier stages of chronic Bright's disease, when there is a full well-sustained pulse, potash may be given alone without depressing the circulation too much. In fact, a certain amount of depression of the circulation is not without its advantages; and a lowering of the bulk of urine is commonly accompanied by a positive increase in the amount of urine-solids, not a mere relative and proportionate rise in the specific gravity. Indeed, it would seem that there is certain antagonism betwixt those branches of the renal artery which Virchow has shown to pass to the cortical substance and the glomeruli, and those which pass in an opposite direction to the vasa recta and the pyramids. When the one set are dilated, there is a large flow of water, and a small escape of urine-solids; when the others are dilated, there is a small flow of dense urine. In health, we are all subject to variations in the volume and character of the urine. In chronic renal disease, these changes are more pronounced still, and the variations in the renal secretion are such as to force themselves upon the attention of the individual. It seems probable that vascular diuretics act upon the cortical division of the branches of the renal artery, as we find under their use a great increase in volume of urine, without increase in bulk of urine solids. So also it would appear that agents which increase the elimination of urine-solids act upon the pyramidal vessels, at the same time decreasing the bulk of urine. Thus we find a condition of high arterial tension, with a large flow of pale limpid urine, gives way to a condition of lessened arterial tension and a small bulk of dense urine: a change very common in the subjects of chronic renal disease. Also, we know that a discharge of lithates in the urine commonly precedes the breaking of a common cold and restored activity of the skin; a dilatation of the pyramidal vessels apparently anticipating the relaxation of the cutaneous vessels. On the other hand, with the corded vessels of an acute hysterical attack, we find a large flow of limpid urine, very free from solids. There is some association, not yet satisfactorily recognized, but glimmering faintly, betwixt conditions of arterial tension and the two sets of vessels in the kidneys. By vascular diuretics we act upon one, and by eliminant diuretics we act upon the other.

The anatomy and physiology of the kidney must be borne in mind whenever it is desirable to give a diuretic; and the form of diuretic to be administered must be recognized in every case, and adapted to the end we wish to attain. Agents classed as diuretics cannot be given indiscriminately and substituted for each other. They can, however often be combined with advantage, and a vascular diuretic may often be united to a diuretic of another form with benefit in a large class of cases.—*Brit. Med. Journ.*, Aug. 28, 1875.

Raw Onion as a Diuretic.

Dr. G. W. BALFOUR, at a late meeting of the Medico-Chirurgical Society of Edinburgh (*Edinburgh Med. Journ.*, Sept. 1875), gave an account of three patients who had been much benefited by the use of large quantities of raw onions, which had acted as a diuretic. The first case was that of a woman who had suffered from large white kidney and constriction of the mitral valve. Her abdomen and legs had been tapped several times, but, after using the remedy given above, she had been free from dropsy for two years, although still suffering from albuminuria. In the other two, one suffered from cardiac disease, cirrhotic liver, and ascites; the other had ascites, depending on tumour

of the liver. In both of these, the remedy had been given with good results. Both had been previously tapped, purgatives and diuretics alike having failed, to give relief; and it was only upon finding that the fluid was steadily reaccumulating, in spite of treatment, that recourse was had to the onions. Under their use the amount passed steadily rose from ten or fifteen ounces to seventy, eighty, and a hundred ounces in a few days.

Bromide of Camphor.

A brief monograph on the physiological and therapeutical properties of bromide of camphor—a powerful and somewhat uncertain remedy introduced to the notice of the profession chiefly by Bourneville and Lawson—has recently been published by M. PATHAULT, of Paris. Experiments on animals have shown that it reduces the number and force of the pulsations of the heart, and causes narrowing of the calibre of small arteries by its action on the vasomotor centres—conclusions somewhat at variance with one another—since, whilst it has an inhibitory effect on the central organs, it acts as a stimulant to the sympathetic in the peripheral portions of the vascular system. It is also stated to have a lowering influence on the rate of respirations and on the temperature of the body, the reduction in the latter respect being rapid and very marked (as much as 3° C. in an hour). Dr. Pathault has found that the elimination of the bromide by the urine begins within six hours after administration of the drug, and is not completed for two days. On the nervous centres it acts as a hypnotic, and also gives rise to clonic convulsions and muscular tremors. Dr. Pathault gives myographic tracings from frogs poisoned with the drug, and shows that they differ from those produced by strychnine (with which it had been commonly compared) in resembling almost entirely the physiological tracing. The drug has been given in doses varying from four to sixty grains with variable results in cases of delirium tremens, insomnia, chorea, infantile convulsions, hysteria, epilepsy, neuralgia, and in some affections of the genito-urinary organs.—*Lancet*, Aug. 7, 1875.

Nitric Acid as a Caustic in Uterine Practice, and its Superiority as such to Nitrate of Silver.

DR. JAMES BRAITHWAITE, of Leeds, read a short paper on this subject at the recent meeting of the British Medical Association (*British Medical Journal*, Aug. 21, 1875), in which he said that nitric acid is the caustic which, of all others, is the best adapted for use in cases of chronic inflammatory disease of the os and cervix uteri, resulting in erosion or ulceration. Nitrate of silver is inefficient, and requires frequent reapplication, to atone for its defects both in degree and in the nature of its action. Nitric acid, on the other hand, acts as a caustic in these cases with certainty, and neither does too much nor too little. Its application is productive of little or no pain; and, when it has once been properly applied in some cases, no further speculum-examination is required, such reliance may be placed upon its effects. If an examination be made, which is always better, it need only be after an interval of a month, and then the acid may be applied again to any spot which appears to require it. The resulting sore has a very strong tendency to heal, and does so partly by fresh formation of mucous membrane, which is not cicatricial in appearance. The contraction is greater than follows the application of any other caustic, and is the very thing required to insure the permanence of the cure. The contraction in cases of cervical catarrh is only contraction to a healthy size of the canal, provided the acid is used with proper care. The peculiarly lasting and permanent action of nitric acid enables us to do away with the repeated speculum-examinations, so distasteful to both patient and surgeon; and gives the latter a feeling of confidence of success which he cannot have with any other caustic. The use of nitric acid, common as it is in other diseases, is referred to by very few writers, and is entirely omitted by most of our standard authors upon diseases of women, all of whom recommend nitrate of silver, or mention its use as the usual practice.

Medicine.

On the Cure of Splenic Leukæmia by means of Phosphorus.

Dr. Wilson Fox takes an early opportunity (*Lancet*, July 10, 1875) of corroborating an observation by Dr. Broadbent (*Practitioner*, Jan. 1875) on the influence of phosphorus in this disease. His patient was a baker, aged 37, who, on admission into University College Hospital, was intensely pallid, with extremely marked anæmia of the mucous surfaces and of the nails; markedly emaciated, hardly able to stand without assistance; no œdema. He had frequent slight rigors; was pyrexial, and sweated profusely. In the splenic region there was felt a hard, resistant mass, pushing outward the cartilages of the tenth and eleventh ribs, and reaching backward nearly to the spine. It was smooth, and movable on deep respiration. The blood from the finger was paler than natural. The white corpuscles were nearly twenty times their usual number, and this proportion remained constant during the greater part, if not the whole, of the period before he began to take phosphorus. There was, in addition, a large number of molecules, which were aggregated into irregular masses. Previous treatment having proved unsuccessful, Dr. Fox determined to try the effect of phosphorus, and ordered one-fiftieth and afterwards one-thirtieth of a grain three times a day; all other treatment was discontinued. Under this treatment the pulse diminished in frequency; the pyrexia subsided; the appetite improved; bowels became regular; and the white corpuscles diminished in number. In two months and a half the patient had lost his anæmic look, and the spleen had diminished in size. In five months he is reported as looking the picture of health, but without any further appreciable diminution of the size of the spleen. His white blood-corpuscles were normal in number, although nearly double the natural size.

Treatment of Sea-sickness by Chloral.

Dr. L. C. OBET (*Archives de Médecine Navale*, June, 1875), after four years' constant experience in the treatment of sea-sickness, concludes that chloralhydrate is the remedy which unquestionably gives the best results. Electrization, the hypodermic injection of morphia, and other means of more or less repute in this affection, afford but temporary relief. Bromide of potassium gives more satisfactory results than the rest; but the slowness of its action, the largeness of the dose, and the quantity of liquid in which it requires to be given, are great drawbacks to its administration.

The chloral is given the first day in a single dose of from one to two grammes. On the following days the same quantity is given again, either in a single dose as before, or in divided doses taken every hour.

Under this treatment, the patient becomes able even to join the dinner table in the course of two or three days.

With pregnant women also the result proved equally satisfactory, not a single case of miscarriage or premature labour having occurred.

The experiments of Carville, Oré, and Vulpian have shown that chloral, when given in sufficient doses, diminishes the general sensibility and the reflex action of the nervous system; that its effects are due to it as chloral and not to chloroform produced by the decomposition of chloral in the blood; and that the drug acts directly upon the elements of the spinal cord itself, and not through the medium of the vaso-motor nerves. If it be admitted that sea-sickness is chiefly dependent upon irritation of the medulla oblongata, the action of chloral in this affection is intelligible.—*London Medical Record*, August 16, 1875.

Nitrite of Amyl in Sea-sickness.

Mr. CROCHLEY CLAPHAM recommends (*Lancet*, August 21, 1875) the employment of nitrite of amyl as a remedy in the treatment of sea-sickness, and he does so, he says, with considerable experience of its utility. "During a trip round the world of nearly two years' duration, in which time I crossed the Pacific Ocean in various directions no less than eleven times, I made the treatment of this distressing malady my especial study—with what result will be seen below.

"On my way out east I ran through all the prevalent modes of treatment, nice and nasty—such as iced champagne, bottled porter, camphor, chlorodyne, belladonna, ice to the spine, etc.—and, with the exception of the last-named, found them nearly all palliatives, and of very uncertain action even to that extent. With respect to Dr. Chapman's spinal ice-bags, I can report favourably of their use in sea-sickness, when procurable; but people will not or cannot provide themselves with these articles, nor will ship-owners supply them in any number, and nothing can be more futile than attempting to treat twenty or thirty sea-sick people with one or two ice-bags.

"As to the proximate cause of the malady, I entirely agree with Dr. Chapman that it consists of an undue congestion of the vessels of the spinal cord. On this point I had an excellent opportunity of drawing some conclusions from a *post-mortem* which I was fortunate enough to make whilst acting as superintendent of the Government Civil Hospital at Hongkong last summer. The case was that of a Chinaman who had been killed, whilst in the very act of vomiting during an attack of sea-sickness, by the fall of a heavy piece of iron from aloft. I found, on making the necropsy (four hours after death), that, leaving out of consideration the heart, which had been pierced by the falling iron, all the organs were healthy with the exception of the spinal cord, the vessels of which were literally gorged with blood throughout its entire length. I was struck with the similarity of this appearance to that presented by the spinal cord of an epileptic patient who died in the 'status,' and upon whom I made a *post-mortem* whilst at the West Riding Asylum, Wakefield. Coupling the *post-mortem* likeness to the resemblance which obtains in life between these two affections (pallor of surface, cold sweat, etc.), it occurred to me that the remedy which, in the hands of Dr. J. Crichton Browne, has proved so valuable in the epileptic 'status,' might be advantageously employed in the treatment of sea-sickness.

"To test the truth of this surmise I made several trips across the Pacific, and tried the remedy altogether in 124 cases. Of these, 121 proved eminently satisfactory, there being no return of the vomiting after the administration of the nitrite; the remaining three cases being only unsatisfactory in so far as they required a further dose or two of the remedy.

"The mode of exhibiting the drug which I adopt is by inhalation, three drops¹ of the nitrite being poured on a handkerchief and held *close* to the patient's nose. The inhalation must be conducted rapidly, so as to give the full influence of the drug without a *too free* admixture of air.

"The action of the remedy in freeing the circulation and relieving the hyperæmia of the spinal cord will be quickly evidenced by a throbbing sensation in the temples (occasionally rather disagreeable) and by a more or less general flushing and increased warmth of the surface of the body. This warm and comfortable glow, which takes the place of the chilly sweat so disagreeable in this disease, is usually followed in the course of half an hour by a pleasant slumber, from which the patient wakes to eat a hearty meal. Should the sickness recur, which it may do after the lapse of twenty-four hours, the inhalation must be repeated. The patient should be in bed when under treatment, so as not to interfere with the subsequent sleep; and I have usually judged it better to allow one fit of vomiting to take place before applying the remedy, not only to insure the *bond fide* character of the seizure, but also because I consider it

¹ More should not be used without medical advice.

advantageous unless the patient be in a very weak state of health. I only met with one case in which the medicine was refused on account of disagreeable effects, and in this instance, which occurred in the tropics, the patient complained that 'it made him feel so hot he would rather be sea-sick.'

Successful Treatment of Locomotor Ataxy.

Dr. G. W. BALFOUR exhibited at a recent meeting of the Medico-Chirurgical Society of Edinburgh (*Edinburgh Med. Journ.*, Sept. 1875) a patient who had shown, three months previously, all the characteristic symptoms of locomotor ataxy. He was quite unable to walk, or to stand with his eyes shut; now he was, however, able to stand tolerably firmly when his eyes were shut, and also to walk about with considerable ease; his characteristic pains had also ceased. His case was only a sample of many similar recoveries. Its completeness was, to a certain extent, due to the recentness of the case; but in another instance the cure was so complete that he at first suspected "malin-gering;" but the fact that the patient, whom he frequently saw, had never tried it on again, though he still remained poor and in need of assistance, was against this supposition. The treatment employed was that first proposed by Wunderlich, and consisted in the administration of half-grain doses of nitrate of silver, night and morning, for six weeks continuously. Its use was then broken off for two or three weeks, and if necessary again resumed, until about a drachm, or a drachm and a half, of the drug had been used. By this a cure could be effected without any blackening or discoloration of the skin. In one special case of a patient from Newcastle, there was also myosis of the pupils and loss of sensation over the whole of the body except about three finger-breadths round the waist. The latter had been restored by the use of a mild Faradic current, administered by putting the sponges into two pails of salt and water, where the patient's feet were. This treatment had been successful in German, French, and British hands, and it certainly seemed capable of arresting the disease, and removing all that portion of the symptoms merely of functional origin, though, of course, it could not be expected to remove any organic changes which had occurred.

Periphere Traumatic Epilepsy.

Dr. BRIAND relates in the *Bulletin de la Société de Médecine d'Angers*, ann. lxxvii. p. 121, the case of a young man aged twenty, in whose family there was no history of epilepsy, nor of any kind of nervous disorder having any relation to epilepsy. The patient himself, until the occurrence of the injury, had never felt anything in the slightest degree resembling epilepsy. He had not contracted any venereal disorder, and did not show any symptoms which could rise to suspicion of the existence of any cerebral affection.

At the battle of Mans in January, 1871, he was struck by two fragments of shell at the level of the nates. The marks left by these wounds prove that both the sciatic nerves were touched; there is likewise no possibility of doubting this since there was an attack of paraplegia with anæsthesia, which only disappeared at the end of a year. Eight months after receiving the wound this young man had an epileptic attack, and since that time has had several, returning at variable intervals, but always strongly marked.—*London Medical Record*, Aug. 16, 1875.

Hystero-Epilepsy with Anuria.

At the meeting of the Paris Society of Biology on July 3, M. BOURNEVILLE communicated the particulars of a very remarkable case of this kind. It related to a woman aged forty-six, Justine Echeverry, who, having enjoyed good health up to twenty-three years of age, was then, in 1854, exposed to sudden fright. The following year she had an attack of hystero-epilepsy, fell into the fire, and burnt her face severely. In 1859, 1860, 1863, and 1865, she had simi-

lar crises. Having gone into the Sainte-Eugénie Hospital in 1865, she had cholera in 1866. After that time there was suppression of urine for a week; it re-appeared, but it was necessary to catheterize the patient daily until May, 1875. After having had several crises, she went into the Salpêtrière in 1869. There she had several hystero-epileptic attacks, followed by contractions in the upper and lower limbs, which contractions decreased at different times, and were partially cured, recurred, and remained permanent in several parts. Abridging the history of the patient, we come to May 17, 1875. On that day at mid-day, she had an hystero-epileptic attack preceded by an aura (ovarian and anal pains with irradiations to the epigastrium, neck, and temples). The attack was accompanied by cries, deviation of the eyes, distortions of the face (which was of a violet tinge); the right arm was bent and remained fixed for three hours. On May 18, she presented the following condition: contraction of the legs and arms, complete anæsthesia, double amblyopia, contraction of the jaw. The patient could no longer speak; there were neuralgic attacks, for which injections of morphine were administered. This condition lasted, without notable change, until May 22; on that day there was a fresh attack, and the singular part of the case is that at eight o'clock the patient was completely cured. Thus disappeared in a few minutes a retention of urine which had lasted since 1866; a contraction of the members of the left side dating from 1869; a contraction of the jaws necessitating alimentation, by the aid of a sound, during ten months, and aphonia of equal duration.

M. Charcot had, in 1870, made the following prognosis: "It is possible that, notwithstanding its lengthened duration, this contraction may vanish without leaving any traces, perhaps to-morrow, perhaps in some days, in a year; nothing can be prejudged in this respect. But in any case, if there is a cure at all, it may be sudden. From one day to the other everything may become normal; and, if it so occur that at the time the hysterical diathesis is exhausted, she will regain her accustomed health" (*Leçons sur les Maladies du Système Nerveux*, first edition). This case should be collated with those collected by M. Bourneville, in his *Memoir on Hysterical Contraction*, published in 1872.

To the details of this case, M. REGNARD added diagrams showing the amount of urine and the amount of urea excreted during the period of ischuria. He made 112 analyses under so much the more precise conditions, that, on the one hand, the patient was fed by the œsophageal sound with an unvarying amount of food; and that, on the other hand, catheterism was performed in consequence of the contraction of the neck of the bladder. During three months the patient voided daily fifteen or twenty grammes of urine, containing three or four decigrammes of urea. The details of M. Regnard's investigations are printed in the *Comptes Rendus* of the Société de Biologie. It will suffice here to state that the secretion of urine, which had been completely suppressed during many months, was suddenly re-established at the time when the other hysterical manifestations ceased.—*London Med. Record*, Aug. 16, 1875.

Case of Abnormal Disposition to Sleep alternated with Choreic Movements.

Dr W. T. GAIRDNER, of Glasgow, reported this interesting case at the late meeting of the British Medical Association (*British Med. Journ.*, Aug. 21, 1875). The phenomena of the case were unique, and were observed over three years. The patient, a young girl, was not cataleptic; the muscular movements had no resemblance whatever to the peculiar rigidity of catalepsy, and differed from choreic movements in the fact that they alternated with states of consciousness. When asleep, she was still and tranquil; when awake, almost without intermission, she was a prey to involuntary muscular movement. She was not subject to any condition of hysterical coma, ecstasy, or trance; had been subject to no known cause of hysterical derangement; and had never sought to attract attention, or been in any way made an exhibition of, publicly or privately. In her waking moments, she was cheerful, and even lively, presenting no trace of exaggerated self-consciousness and no dramatic or inventive faculty. She had no religious or metaphysical prepossessions; in fact, apart

from the peculiarities of her case, she was a normal person of her years. She was not somnolent, and there was an entire absence of any form of externally controlled will. There only remained one hypothesis; that this girl was a malingerer; but anything like premeditated deception or scheming would imply powers as well as motives for deception, which seemed to be wholly absent. The involuntary muscular movements were in themselves wholly painless, however disturbing. By far the most persistent involuntary jerking movements were a slight rapid motion of the head, twitching of the left side of the mouth, and jerking of the right arm. There never was any nodding movement. To a certain extent, the movements were increased by mental emotion, but ceased when the girl was asleep. The shakings were entirely beyond the control of her will. The sleep was very deep, sound, and natural, and the girl could not be roused by agitation, concussion, or ordinary noises; but she could be readily wakened by calling her name close to her ear. The most startling feature of the case was the sudden transition between sleep and thorough waking. So great was the tendency to fall asleep, that she had frequently been known to drop asleep when walking about or standing; but, if kept awake, she could read, play the piano, or do ordinary women's work. If allowed to fall asleep and then suddenly awakened, she showed no want of self-possession, and resumed her occupation or conversation exactly at the point where she had been interrupted. Very rarely a spasmodic movement was observed when passing from sleep to waking. On two occasions, she slept for eight days without waking, and in several instances she slept continuously for two or three days, but, on waking spontaneously, she had no conception of having slept more than one night. There was, finally, a certain amount of dull pain or uneasiness in the left temple. Dr. CLOUSTON (Edinburgh) said this was a very extraordinary case described in a very interesting manner. He had seen a case with many parallel features occurring in the course of general paralysis, and after an epileptic attack. He had had the case of a lady who suffered from twitchings of the left side of the face and of the right arm and shoulder. She also, for two or three days, had a very extraordinary tendency to somnolence. He had never been in the least degree satisfied with any of the ordinary theories of sleep. It always seemed to him that there must be a sleep-centre, and that this must be in the upper part of the brain, where the conditions of consciousness were determined. The present instance confirmed the theory that the sleep-centre could act instantaneously in certain cases.

Electrical Chorea.

Dr. STEFANINI, of Paris, describes in the *Annali Universali di Medicina*, No. 231, 1875, two cases of electrical chorea, which, in his opinion, support the idea expressed by Pignacca, Illoertel, and Tommasi, that this form of disease arises from a lesion of the spinal cord, and consists externally in an inflammatory process, the last stage of which is softening; that is to say, that electrical chorea has a form of myelitis as its anatomical cause.

In Dr. Stefanini's first case, the patient was a robust young man, who was suddenly seized with rhythmic convulsive movements of the left shoulder. These movements gradually extended to the whole left side of the body, then to the tongue, the diaphragm, and the right lower limb, and were at last followed by paralysis and atrophy of the affected muscles. The temperature rose during the last days of the patient's life to 105° and 111° Fahr.; the urine, which was at first acid, became alkaline. Dr. Stefanini calls attention to these two phenomena as of great importance in the diagnosis of lesions of the medulla. The patient died after he had been three months in hospital. At the necropsy, there were found congestion of the pia mater of the spinal cord, and softening of the substance for a space of four-fifths of an inch in the vicinity of the cervical enlargement. Microscopic examination of the softened parts showed the presence of fat granules and globules, granular nerve-tubules, ganglionic cells with a rather obscure protoplasm, and turgid capillaries.

The other case differed from the preceding one in its shorter duration (three

days), in the occurrence of general convulsive attacks with loss of consciousness, and in the presence from the commencement of muscular contraction extending to the whole left side of the body. The temperature rose to 106.25° Fahr. On *post-mortem* examination there was found to be hyperæmia of the cerebral membranes and of the white substance of the brain and spinal cord, the latter having also an increased consistence.—*London Med. Record*, Aug. 16, 1875.

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On an Imperfectly Recognized Combination of Spinal Symptoms.

Dr. ERB, of Heidelberg (*Berliner Klinische Wochenschrift*, June 28, 1875), has met with about a dozen cases of affection of the spinal cord, in which he considers that the symptoms were sufficiently distinct and well marked to justify their separation from other forms of spinal paralysis, such as myelitis, ataxy, tabes dorsalis, etc. The clinical evidence of distinctness, he adds, is clear, constant, and well marked, although as yet it is not confirmed by *post-mortem* examination. The cases described by Dr. Erb exhibit a malady slow in progress, not tending to death, but an essentially chronic form of disease, extremely gradual in its development. It seldom begins with abnormal sensation, but almost always commences with impairment of the motor functions, especially of the lower limbs, as shown in the uncertainty of gait and tendency to falling. Frequently at the outset spasmodic action and cramps of single groups of muscles are observed. The disease being progressive, the patient after months or years presents a peculiar appearance from the strangeness of his gait, and later still becomes more or less paralyzed and unable to stand or walk. The staggering gait reminds one of ataxy, but closer observation detects the difference. The patient drags the limbs after him, his feet appear to adhere to the ground, the toes catch upon every unevenness of the ground, and are dragged along with a shuffling noise. Every step is performed by a distinct heaving effort of the body, which acquires a tendency to fall forward. This is caused by contraction of the muscles of the calves, by which the toes are bent downwards. The knees are bent forward, as also the whole body inclines forwards. In the recumbent posture, movements of the body are at first not much impeded, but at a later period become difficult and painful. Standing is possible, either on one foot, or with the feet close together. Closing the eyes does not cause giddiness or staggering. Muscular contractions ultimately cause fixed positions of the limbs. The muscles continue to be well nourished, and retain their normal electro-excitabilities. It frequently occurs that the muscles of the trunk become feeble, so that it is with difficulty that the erect posture can be maintained. The upper extremities seldom become affected. There is seldom any impairment of the sensibility or of the muscular sense. In only one case was there slight cutaneous hyperæsthesia. A very marked reflex susceptibility is observed in many of the tendons, *e. g.* the ligamentum patellæ, the tendo Achillis, the adductors, the biceps femoris, the tibialis anticus and posticus. This reflex property of tendons, the author states that he has formerly described, in conjunction with Professor Westphal. The vaso-motor functions are not interrupted, except that in a few cases there is coldness and blueness of the extremities. The cerebral functions are also unimpaired. The general health is but slightly interfered with. The progress of most of these cases has been a gradually increasing loss of power in the lower limbs, until the patient has become bed-ridden.

These cases are compared differentially with other forms of spinal disease by Dr. Erb, who, failing an opportunity of *post-mortem* examination, finds it very difficult to localize the affection. The pathological condition which the author regards as nearest to that under consideration, is that of sclerosis of the lateral columns of the spinal cord, as described by Charcot. Their prognosis is not unfavourable, indeed the author has seen several cases that have been greatly benefited by galvanism.—*Lond. Med. Record*, Aug. 16, 1875.

Case of Hysteria in a Male.

Dr. BONNEMAISON, of Toulouse, relates (*Archives Générales de Méd.*, Jan. 1875) a case of hysteria in a man aged seventy-two. The brother of the patient was a hypochondriac, and his mother, who died at the age of eighty-one, suffered from various forms of nervous disturbance, analogous to those of her hysterical son, after reaching her seventy-sixth year. The attacks in the case of Dr. Bonnemaison's patient came on three or four times in the twenty-four hours; ushered in, when occurring during the night, by nightmare; when in the day, by various sensations, and usually by pain in the epigastric region. An aura proceeding from this point travelled along the sternum to the throat, and thence to the mouth and tongue, and other regions of the body, the muscles of the parts affected by this sensation being thrown into violent, rapid, and unaccountable convulsive action. The patient uttered strange cries and yells, or repeated the same words over and over again with extreme rapidity. At times the tongue would be smacked violently against the roof of the mouth, the cheeks spasmodically pulled out with the action of blowing or whistling, and the jaws snapped violently together, without, however, biting the tongue. The arms were moved rhythmically together with the action of flying, or drumming, or playing the piano. Sometimes the lower limbs shook violently, or executed the movements of dancing. The attacks bore a strong resemblance to those of the "convulsionnaires" of St. Médard, or the rhythmic chorea of the epidemics of Louviers, Toulouse, and Morzic. The disturbance of the voluntary muscles might be accompanied by spasm of the involuntary muscles also, or the latter might form the chief phenomena of the paroxysm, consisting in hiccup, eructations, sighs, and borborygmi. During the whole of the attack the hyperæsthesia of the skin was excessive, especially at the forehead, epigastric region, and sternum; there was no loss of consciousness. The attack ended either with a copious flow of limpid urine, or a discharge of tears. There was never any pain or sensation referable to the generative organs, nor anything whatever in the history or the symptoms indicative of their implication in any way whatever. The same absence of any pathological condition of the organs of generation has been observed in cases of male hysteria observed by others. Grisolle, again, met with hysteria in a woman, in whom congenital absence of the uterus and part of the vagina was proved by *post-mortem* examination. Children of six or seven years old are liable to hysteria. From these and other considerations, M. Bonnemaison concludes that pathological conditions of the uterus and ovaries are not the necessary cause and organic foundation of hysteria. He regards it as a neurosis, an expression of a nervous diathesis, having often an hereditary connection not only with hysteria, but with other neuroses, such as epilepsy, idiocy, or hypochondriasis. The point of departure of the symptomatic explosion may be sometimes in one organ, sometimes in another; the uterus, the ovaries, the stomach, the intestines, functional disorder of different cerebro-spinal regions, etc. The predisposition may be developed by errors of education, luxury, excess, or other surrounding conditions; but the constitutional foundation is always the same.

Dr. PAUL FABRE (*Annales Médico-Psychologiques*, May, 1875) relates another case of hysteria occurring in a man, and quotes the opinions of various authors upon the question of hysteria in the male sex. With M. Briquet, he holds that an increased impressionability of the effective element in the nervous system is at the root of the predisposition to hysteria; that hysteria is confined almost entirely to the female sex because this affective element predominates there. Nevertheless, it may be found in males if there be the same predominance. The cause is not connected with the genital organs of the female, but is to be looked for in the sensitive nature of women. The passions and the gloomy emotions alone predispose to hysteria. The man whose case is related was timid, credulous, and very impressionable. He was thirty years of age, pale, and debilitated. Both parents had died of phthisis, and he was the last of four children. His build and voice were somewhat feminine. He indulged in masturbation and drink, and was confined, as of weak mind with hallucinations and excitement. After being in the asylum a few days he had attacks of

a convulsive character, lasting from ten to forty-five minutes, and returning every third or fourth day. Sometimes convulsive movements commenced in the lower limbs, and thence extended to all the rest. At others, the upper portion alone was convulsed, the abdomen and lower limbs remaining unmoved. Consciousness was partially or altogether lost. He described the attacks as commencing in various parts, the genital organs, the head, or stomach. For fear of bringing them on, he at one time refused food. He heard voices of the devil, his father, mother, or sister. He calmed down in about two months, the attacks left him, and he was able to give an account of himself. In his case all the common symptoms of hysteria were well seen; the partial loss of consciousness, clonic convulsions and spasms, sensations of globus, hyperæsthesia, and analgesia. There was also a constant spitting, which is frequently found. Without discussing the whole question of treatment, Dr. Fabre mentions a method of cutting short an attack by compressing the testicles. Two attacks in this patient were arrested, one by this method, and another by compression of the carotids. The latter plan operates, he believes, through the effect produced on the larynx; the former through the pain it causes. Bromide of potassium is useful, but it must be employed along with agents calculated to remove the cause of the malady. Here anæmia and disturbance of the digestive organs called for appropriate remedies.—*London Med. Record*, Aug. 16, 1875.

Ménière's Disease.

In the first number of the *Annales des Maladies de l'Oreille et du Larynx*, Dr. LADREIT DE LACHARRIÈRE gives a concise *résumé* of Ménière's disease, and reviews the opinions of some of the authorities on the subject. He believes that the disease is always characterized by lesions of the labyrinth, and that those affections which have not their seat there, although they closely resemble it in their symptoms, can always be distinguished from it. He divides the symptoms into the transient, under which he places the syncope, the vomiting, and the headache; the more persistent, including therein the vertigo and the tinnitus; and the constant, which is the deafness. In relation to the last symptom, he says that when all the other morbid phenomena have disappeared, the deafness generally persists to a considerable degree, though possibly not always so complete as at first.

Among the diatheses, the author thinks that the syphilitic and scrofulous play an important part in Ménière's disease, as he has frequently seen the affection of the labyrinth appear at the same time as the tertiary symptoms of syphilis, and he therefore thinks there is a connection between them. Moreover, he adds, syphilis and scrofula are constantly showing themselves in affections of the mucous membranes and periosteum, and are very frequent causes of the diseases of the ear. As other causes, he mentions injuries or concussions to the head, causing osseous lesions, purulent catarrh of the middle ear, and polypus of the ear.

The diagnosis of the affection is not difficult when the symptoms appear suddenly, when it is remembered that, being an affection of the labyrinth, the deafness must be more or less complete, and that three symptoms are always present—namely, deafness, tinnitus, and vertigo. Where deafness and tinnitus occur without vertigo, he says the cause of these phenomena will always be found in lesions of the middle ear. Where vertigo and tinnitus are complained of, but the hearing is intact, a lesion of the middle ear, cerebral congestion, and epilepsy ought to be looked for. But where the three symptoms are present without sufficient lesion of the middle ear to explain them, a lesion of the labyrinth is to be assumed. Dr. Ladreit de Lacharrière also looks to the character of the tinnitus, and avers that the patient suffering from affection of the cavity only never complains of the musical and bell-like bruits, which are spoken of by those suffering from Ménière's disease. Further, when the deafness, as determined by the tuning-fork, is slight—not differing much from that of the sound side—he thinks the observer may rest assured that the disease is limited to the organs of transmission.

The progress of the affection, according to his experience, varies. In the cases where the onset has been sudden and violent, the morbid phenomena pass off by degrees, but deafness always remains to a variable extent. Where, on the contrary, the disease has progressed slowly but regularly, the deafness remains complete.

The treatment is not so hopeless, according to Dr. Ladreit de Lacharrière, as is generally believed in this country. He has, he says, frequently had the satisfaction of ameliorating the state of patients who have come under his care. His treatment is etiological. If inflammatory affections of the labyrinth be supposed to be present, antiphlogistics are indicated; while if syphilis have probably been the cause, mercury, iodine, or iodide of potassium is tried. —*London Med. Record*, Aug. 16, 1875.

Autumnal Catarrh.

Dr. MORRILL WYMAN, of Cambridge, in an interesting article on this curious affection (*Boston Medical and Surgical Journal*, Aug. 19, 1875), says, autumnal catarrh, or "hay fever," as it is popularly called, although there is no evidence that it has anything to do with hay as a cause, sets in towards the end of August as surely as swallows come in spring, and runs its course within the narrow bounds of a single month. Its subjects are already preparing for what is before them, and the known number of these subjects, now that the disease is recognized and described, especially among the more cultivated classes, is surprising. The vendors of secret compounds have already discovered the field, and are hovering about with such a multitude of sure cures that it would seem sheer malice in anybody to be sick.

Limited to a single month, the disease then disappears, whether treated or not, leaving the victim with more or less weakness and depression, from which, if otherwise in good health, as a general rule, he soon recovers. But what is very remarkable, numerous as the sufferers are, they are limited to certain regions. If the sufferer leaves these catarrhal regions for others, which long and careful observation has shown to be free from the malady, he begins immediately to recover, and within forty-eight hours is substantially well of the disease, although some of its effects may not so promptly disappear. Of these places of refuge, the White Mountain region is best known and most frequently resorted to. The Glen, Gorham, Randolph, Jefferson, Whitefield, Bethlehem Village, the Franconia Notch, White Mountain Notch, Twin Mountain House, are all within the limits of safety. Other elevated tracts are safe: Mount Mansfield, in Vermont, the Adirondacks, the Ohio and Pennsylvania plateau, including the high range of southern counties in New York from the Catskill Mountains to the western border of the State, the plateau in these counties having an elevation of two thousand feet above the sea. The valleys and lakes of the same State at a lower level are not safe. The island of Mackinaw, and north of the great lakes, in Canada, and beyond the Mississippi at St. Paul, Minnesota, and still further west, are large tracts which may be resorted to. Still further south, the Alleghany Mountains at Oakland, and other elevated points, are usually free. To the east, the elevated interior of Maine and its extensive lakes afford both pleasure and safety; or, if the sea-coast is preferred, the whole coast east of the St. John's, thence quite round to Labrador, is open to the subjects of "hay fever." Sufferers who literally pitch their tents in these favored regions, as a general rule, not only escape their enemy, but may also find themselves, at the end of the month, with a vigor that nothing but living under canvas seems to give. It is not to be inferred, however, that all cases of catarrh or asthma in autumn will be thus relieved, for other affections exist, not autumnal catarrh but somewhat resembling it, that are not cured by the same methods. And again, this affection varies in its severity and in its complications; some of these may prove intractable. Lastly, the places just named may, at times, present such changes in temperature, moisture, and vegetation, as to interfere materially with their beneficial influences. That such should be the case is in analogy with many things in medicine and physiology, in which nothing is absolute and invariable.

To derive all the benefit possible from change of residence, it should be made a few days before the annual return of the disease; in this case, as in many others, it is better to prevent than to cure. If the disease has been long in action, the lining membrane of the nostrils becomes thickened, the eyelids inflamed, the bronchial tubes irritated, and, although the cause of the disease is promptly arrested, its effects require time for their removal. Then again, if the journey is by rail in hot, dry, and dusty weather, this combination, if the time is near at hand, is very likely to hasten an outbreak.

Although the course just mentioned is the best, there is a proper regimen and some remedies for the relief of those who stay at home, by which, although their troubles cannot be completely prevented or broken up, they can be materially diminished. It must not be forgotten that this disease is remarkable for its remissions and apparent cessations. These are so complete as to deceive even the wary and experienced with the hope, not destined to be realized, that it is really taking its leave, and the sanguine with the belief that, armed with their last new remedy, they have achieved a victory. What we have to propose is the result of experience and the trial of many medicines. Other and better may be discovered, and perhaps a specific may be in store for us; but, inasmuch as the disease is limited and bearable, and does not inflict great injury, it is not worth while to run much risk of life or permanently derange health on the mere chance of a successful result. We can only hope that what has proved useful to some may prove useful to more.

As the disease has more of a general than local character, and falls especially upon the nervous system, we have reason to expect more from constitutional than from local treatment. So, also, as the injurious influences are constantly at work, we should expect more from mild measures steadily pursued than from any violent, irregular, and almost necessarily debilitating course.

First, of preventive measures. The direct rays of the sun are to be avoided during the hot weather, as having a debilitating influence on the nervous system. Avoid the smoke and dust of the railway train, and the dust of the street; avoid also those plants, such as Roman wormwood, golden rod, and other flowers and fruits, which are known to bring on an attack. The sleeping-room should have an open fire-place, should not be exposed to the afternoon sun, and after being well aired for an hour in the early morning should have the windows and doors closed, and kept closed, so that the air shall be as still as possible until the following morning. We think the still air allows the injurious particles to subside; but whether this be so or not we are satisfied that this course has given us a good night's sleep and a better condition in the morning. The diet should be nourishing, containing animal food. Alcoholic stimulants should be avoided. Flannels worn from the middle of August, and increased in warmth as the season and disease advance, give protection against sudden changes of temperature, to which both the skin and the nervous system are very sensitive, and between which, at this time, there is a close sympathy.

Of all the medicines we have as yet fully tried, quinine, in our opinion, has done most good as a preventive and also as a relief of some of the most annoying symptoms. Whether it has specific properties or not we cannot say, but it is generally acknowledged to be a good tonic to increase the appetite, and is probably an aid to the digestion and appropriation of food. Its use should be commenced a week or ten days before the usual return of the disease, and continued through its course, in doses of one or two grains with each meal. Gentle saline or other laxatives are useful, but violent purging should be avoided.

Of remedies to be used for the relief of paroxysms of itching of the eyes, mouth, and throat, great numbers are recommended. These very troublesome symptoms may be often greatly relieved by the local application of a saturated watery solution of quinine made without the addition of any acid. The best mode of using it is with an atomizer or, what is quite as good, the perfume distributor in common use; the spray from the clear solution being thrown into the eyes and throat, drawn into the lungs as freely as possible, and also thrown over the skin of the face. It should be used many times daily. Bathing of the eyes in cold or tepid water relieves, and the same may be said of the mild

sedative solution of two or three grains of borax to an ounce of camphor water, a favorite prescription of the oculists. Avoid as much as possible accessions of sneezing; they are the beginning of trouble to both eyes and nose.

The irritation and discharge from the nostrils may be relieved by the "head bath;" holding the head for five minutes over a bowl of very hot milk and water or water alone, the head and shoulders meanwhile covered with a shawl. In railway travelling and on dusty roads much relief is gained by placing small pieces of wet sponge just within the nostrils, or covering the whole face with Swiss muslin wet with water. The nostrils are often completely obstructed early in the morning, and swallowing impeded; this may be relieved temporarily by active movements of the limbs for a few minutes—leaping or running quickly up stairs—after which one can often eat his breakfast with comparative comfort.

For the night a closed room, and, if opium can be taken without inconvenience, six or eight grains of Dover's powder or an equivalent in laudanum or a solution of morphine, often give more or less freedom from that most annoying symptom in the later stages, the spasmodic cough. It may also be relieved by the spray from the watery solution of quinine as just mentioned. The common household mucilaginous remedies, gum arabic and flax-seed tea, for temporary relief are not to be rejected. The asthma, like that occurring at other seasons and produced by other causes, is often spasmodic, nervous, and wayward; it is relieved by a variety of remedies; the inhaling of the smoke from burning stramonium leaves and saltpetre, three parts of the former to one of the latter, probably gives as much relief to a majority of sufferers as any other treatment.

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Tracheotomy in Croup and Diphtheria.

Prof. SPENCE, Surgeon in Ordinary to the Queen in Scotland, in discussing the surgery of the air-passages, in his recent Address in Surgery before the British Medical Association (*British Med. Journal*, Aug. 14, 1875), said: "I have now performed tracheotomy for simple croup and diphtheritic croup one hundred and three times, and saved thirty-four out of that number, or an average of about one life saved in three cases; and it must be remembered that at first I only operated as a last resort, and even yet I do not see my way to operate quite so early as some French surgeons seem to do. I think, however, that there should be no delay when the character of the breathing and the contracted state of the thoracic parietes show that the lungs are not being distended with air. By operating early we avoid the risk of œdema or congestion of the lungs, and of the effects of non-oxygenized blood circulating in the brain.

"I think it right, however, to warn my young brethren that it will require some effort to bear up against discouraging results. I know of no class of cases in which the experience is so painful: an average gives little idea of it. You may have five or six cases in succession, all proving fatal, before you meet with one redeeming success; but then you have the temporary relief almost invariably afforded to the little sufferer; the resuscitations in some cases apparently dead; and, if you persevere, the average of success will come. Above all, we must recollect that, however disagreeable or unpleasant the operation may be to ourselves, we are bound to lose sight of that, and give the patient the only chance for life.

"In speaking of operations in croup, I have used the term simple and diphtheritic croup; and I have done so advisedly, because, whilst the average results of my operations have been as good in the one disease as in the other, I consider them as essentially different diseases, and I do not believe that an extended experience would give the same amount of success in diphtheritic croup as in simple croup. It has been with no small amazement I have read some of the views recently propagated, that croup and diphtheritic croup are identical. I can hardly conceive two diseases more different, whether we consider them in their causation, symptoms, or sequelæ."

Prof. Spence drew attention to their differences many years ago in a paper read before the Edinburgh Medico-Chirurgical Society, and subsequently pub-

lished; and, looking back on his large experience in croup and diphtheritic croup, he thinks the distinctive characters are too marked to allow him to consider the diseases as identical, merely because they possess one feature in common.

Tincture of Eucalyptus in Gangrene of the Lungs.

In an elaborate memoir upon gangrene of the lungs, read recently by M. BÉCQUER, at the Paris Hospital Medical Society (*Bulletin de Thérapeutique*, August 15), he stated that his employment of eucalyptus, as a general rule, has not been attended with the success he had anticipated from what has been said of its properties. In the various bronchial affections he has not found it more useful than other balsamic preparations, and much less so than antimonials. He will not, therefore, be accused of partiality for it in recommending this remedy for the only affection in which he has found it yielding excellent results—gangrene of the lungs. In this disease it has surpassed all other substances which he has employed for removing the horrible fetor characterizing it. During the five years he has been at the Cochin he has seen at least two or three cases a year, and in five of these cases he attributes their cure, in a great part, to the action of the eucalyptus; and in cases in which the disease has terminated fatally, it has been very useful in removing the fetor when carbolic acid had failed to do so, while the violence and tenacity of the cough have been much modified.—*Medical Times and Gaz.*, August 28, 1875.

The Presystolic Murmur.

Auscultation of the heart, without doubt, forms one of the most interesting studies for the clinical observer, and the precise significance to be attached to the various murmurs heard in valvular disease of that organ has afforded matter of debate since the time of Laennec and Corvisart. Nor is it to be wondered at that such debate should still be going on with regard to these abnormal sounds, seeing that even yet physiologists by no means agree as to the causation and time of occurrence of the normal sounds, as to how far they are of direct valvular origin, or how far the muscular walls or the fluid contents of the heart itself participate in their production. The murmur which, above all others, has the most given rise to discussion is that styled "presystolic," which, when fully developed, is at once most characteristic and significant of the lesion underlying it, viz., obstruction to the flow of blood through the mitral orifice.

The chief ground for debate is that raised in our columns three years ago by Dr. Barclay, as to whether the murmur in question be not really due to the flow of blood backwards from the ventricle—in fact that it be of regurgitant and not of obstructive nature, and therefore produced by no contraction of the auricle, or even passive venous flow from the auricle to the ventricle. In his closely reasoned argument, Dr. Barclay endeavoured to show that the auricular contraction passes continuously onward into the ventricular, and that preceding the forcible systole of the ventricle there is a period of tension of its walls, during which, in cases of thickened and contracted mitral orifice, the blood is poured back into the auricle, thus delaying the first sound of the heart, which is coincident with the systole, and which terminates the murmur abruptly. He further argued that the hypertrophy of the auricle so frequently attendant on mitral stenosis is not due to the increased work it would have to perform in forcing the blood through a narrowed orifice, but that it is rather due to the increased amount of blood delivered into the chamber; since, he said, if it contracted at all, it would empty itself in the direction of least resistance, viz., into the pulmonary circulation, in consequence of the pulmonary veins being unguarded by valves. Doubtless this always occurs to a slight extent; but it is equally true, as was pointed out by Dr. Balfour at the time, that, the pulmonary circuit being closed, there is a considerable amount of tension on this side, sufficient—in all, perhaps, but the most extreme cases of stenosis (and in these the characteristic murmur is frequently absent)—to neutralize the resistance afforded by the narrowed outlet.

We wish, however, to call attention to the most recent work on this subject by Dr. Galabin in his paper "On the Interpretation of Cardiographic Tracings," in the last volume of *Guy's Hospital Reports*. We have here the pre-systolic murmur put to the test of the cardiograph, the result being a strong confirmation of the view taken by Dr. W. T. Gairdner, and held by the large majority of clinicians, that the murmur is "auricular-systolic" in nature. The paper is illustrated by a large number of tracings; all of them clearly show that in cases where there was clinical evidence of mitral stenosis the contraction of the auricle occurred earlier, was more pronounced, and lasted longer than in health; besides confirming the view of Marey (in opposition to that of Fick), that the auricular systole is concluded before that of the ventricle begins. Criticizing the view of Dr. Barclay in the light afforded by this research, Dr. Galabin points out, that, if the murmur in question be indeed due to regurgitation, and therefore occurring with the first act of contraction in the ventricle, then in such cases the carotid pulse ought to precede the first sound of the heart, and the action of the ventricle must be prolonged in such cases, both of which effects it is known do not occur. Dr. Galabin does good service in pointing out that the term "presystolic" is open to question, that Dr. Gairdner's term of "auricular systolic" is preferable, and that, strictly speaking, it is diastolic with regard to the state of the ventricle; and he shows—what we have indeed observed at the bedside, but have never had an opportunity of verifying in the dead-house—that in some cases there may be a pure diastolic murmur—i. e., a murmur occurring after the second sound, but terminating before the first sound, heard only at the apex of the heart, and unaccompanied by any of the signs of aortic regurgitation. Such a murmur is presumptive of mitral contraction, but yet it does not conform to the presystolic type. That it is due to mitral contraction is borne out by the cardiographic tracing afforded in such a case, and its occurrence is explained by Dr. Galabin on the hypothesis that the passive venous flow from the auricle, due to the high state of tension in the pulmonary veins, may give rise to a murmur as the current passes through the narrowed orifice; a murmur which disappears when the pressure in the ventricle equalizes, or nearly so, that in the auricle. This, we think, is a most important fact, and one to which we direct Dr. Barclay's attention; but at the same time we must admit that such murmurs are conspicuous by their rarity, and that the commonest of all the abnormal sounds indicating mitral contraction is that which begins before the first sound of the heart, and, increasing in intensity, terminates abruptly in that sound, and that this *is* due to auricular contraction we think no doubt can remain in the mind of him who studies Dr. Galabin's essay. There remain doubtless, further refinements in cardiac auscultation to be one day elucidated—e. g. such modifications of the sounds as may be produced by the minuter changes in valves, etc.; but surely the day is passed when we can no longer diagnose manifest obstruction at any of the orifices of the heart.—*Lancet*, Sept. 4, 1875.

Unusually Rapid Action of the Heart.

Dr. JOHN CAVAFY, assistant physician to St. George's Hospital, London, reports (*British Med. Journal*, Sept. 4, 1875) the following case which came under his notice some years ago.

A groom, aged 32, was admitted into St. George's Hospital, under the care of the late Dr. Fuller, on March 15th, 1871. He had suffered from acute rheumatism seven years before, but had presented no cardiac symptoms till his present illness, the history of which was as follows: He had been in the service of a French family, with whom he was shut up in Paris during the siege. In October his master's horses were killed for food, and he was consequently discharged. Since that time, he had lived very poorly, barely supporting himself by odd jobs of various kinds, and for the last two months had been subjected to great privation. He could obtain no meat, and only small quantities of bread and wine. He grew thin, and became subject, for a fortnight before his admission, to violent palpitation and precordial pain on the least exertion or

excitement. The fits of palpitation would often last a whole night. He left Paris on March 13th, with only two pounds of bread, and, on reaching Charing Cross, was penniless and destitute. He begged a lodging, and was offered food, but could not eat. The next morning, he swallowed a cup of tea, but this was immediately vomited. Violent pain and palpitation came on, and continued with barely appreciable intervals of rest, till he was admitted into the hospital on the following day.

He was then sweating profusely; there was great dyspnoea, and the heart's action was extremely rapid. The pulsations were counted as follows: at 1.30 (by Dr. Barclay), 228; at 2.15 (by myself), 216; at 2.20 (by the house-physician), 208; a little later (by Dr. Dickinson), 200; at 3 (by Dr. Whiphram and myself), 176. A few minutes later (by Dr. Jones), the pulse suddenly became very weak, irregular, and intermittent, and dropped to 100-108. He was fed with small quantities of egg and brandy mixture every hour. The feeding was continued during the night, which was quiet, with the exception of one comparatively slight attack of pain and palpitation, and, at 11 on the following day, I found the pulse irregular, 100 to 108, with occasional intermission, and a harsh systolic murmur was now audible at the apex. Next day, the pulse had fallen to 82, and he steadily improved. He gradually became able to take food, the palpitation diminished in force and frequency, and by April 12th he was well enough to go to the Convalescent Hospital at Wimbledon. The treatment consisted of egg and brandy mixture, gradually diminished and replaced by food; bark and ammonia, and latterly citrate of iron and bromide of potassium in effervescing ammonia draught. No digitalis was given.

In this case, there are, it will be seen, many points of similarity to that published by Dr. Farquharson. There was valvular disease, the murmur was inaudible during the very rapid action of the heart, and there was a sudden fall (preceded in my case by a gradual diminution) in the number of pulsations, accompanied by irregular and intermittent action. With regard to the causation of palpitation, it seems probable that, in the great majority of instances, it is due to paresis of the inhibitory fibres of the pneumogastric, and not to stimulation of the accelerator nerves. Palpitation occurs chiefly in anæmic and otherwise weakened patients: in the case before us, it came on after insufficient food and consequent exhaustion, and it is difficult to suppose that, in cases such as these, there can be increased nervous action of any kind. I am aware that, in exophthalmic goitre, the palpitation and increased action of the heart are considered by some to be owing to stimulation or irritation of the accelerator nerves. But even here the majority of symptoms—dilatation of arteries, flushing, heat, sweating, etc., point to paralysis of the sympathetic, or at least of the vaso-motor nerves. Friedreich has suggested that the increased action of the heart is secondary to vaso-motor paralysis, the coronary arteries being thus dilated, and the heart in consequence receiving an increased blood-supply. It should, however, be remembered that dilatation of arteries means diminution of blood-pressure, and that this always increases the frequency of the heart's contractions. A high blood-pressure, on the contrary, stimulates the centre of origin of the pneumogastric, and thus diminishes the frequency of the pulse.

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Case of Dissecting Aneurism of the Thoracic Aorta.

P. HEDENIUS reports, in the *Upsala Läkareförenings Förhandl.*, Band ix. (abstract in *Nordiskt Mediciniskt Arkiv*, vol. vii.), a case in which a dissecting aneurism was found in a woman, aged seventy-eight, who died of cerebral hemorrhage. It extended for about nine and a half inches from opposite the left subclavian artery down to the celiac axis, and was about 0.8 inch wide, being somewhat smaller below. It was formed by a separation of the outer from the middle coat, was filled with a gray-brown firm laminated thrombus, and communicated with the lumen of the vessel by sharp-edged slits in the inner and middle coats both above and towards the middle. At the upper part the outer coat was perforated, and there was a little extravasation into the anterior mediastinum. At the lower part of the aneurism the outer layer

of the muscular coat was separated from the inner, so that the outer coat had a lining of muscular tissue. The aneurism was partial, not engaging the whole circumference of the aorta, as occurred in a case formerly described by the author. There was extensive endarteritis deformans, and hypertrophy of the left chambers of the heart.—*London Med. Record*, Aug. 16, 1875.

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Embotic Aneurisms and their Analogy to Acute Cardiac Aneurism.

In several cases of endocarditis affecting especially the aortic valves, Ponfick (*Virchow's Archiv.* 58, 1875) has found multiple aneurismal enlargements of the vessels, notably those of soft tissues, such as the brain and mesentery. In their interior was found an embolus consisting of a rough calcareous mass, resembling the excrescences on the valves of the heart, and the plugs which occur without aneurism in other arteries. He attributes the formation of the aneurisms to these emboli becoming more and more firmly wedged into the vessel, and penetrating its walls either by necrosis from pressure, or by their pointed extremities, whence follow hemorrhage, and the formation of a sac. He states that they are most commonly found just behind the point where a vessel subdivides, the action of the stream of blood in this situation having a tendency to force them against the wall of the vessel, and so favour the formation of the aneurism. In calling attention to this matter, Bettelheim cites Rokitsansky's analogous explanation of the formation of acute cardiac aneurism, viz., by necrosis of the heart wall, caused by the constant pressure of vegetation springing from the aortic valves. Ponfick believes that a large proportion of the blood-sacs occurring on small arteries can be traced to such an origin.—*Medical Record*, Sept. 4, 1875.

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A Remarkable Case of Periodical Venesection.

Dr. E. WARREN SAWYER reported to the Chicago Society of Physicians and Surgeons (*Chicago Med. Journal*, Sept. 1875) the following extraordinary case of habitual venesection, the subject of which is a retired clergyman, now eighty years of age, with a blanched face, firm step, and large frame. In his youth he worked with his father on the farm. When he was seventeen years old, in the spring of the year, he yielded to the custom which prevailed universally at that period, and was bled for the first time, for no especial reason; this habit of spring-time bleeding was followed for the succeeding six years, when he entered college to prepare for the ministry. One of the effects of giving up the active work of a farmer, for the sedentary habits of a student, was a constant heaviness, to relieve which, he resorted oftener to the lancet of his physician, who, in those days, was ever ready to "let blood." During the next ten years, he was bled four to six times each year; always losing from ten to fifteen ounces of venous blood. During the few succeeding years, the frequency of his bleedings was gradually increased, until, at the age of forty, he demanded to be bled once in three weeks; nor has the frequency of the bleedings, or the amount of blood taken, ever grown less. For forty years has this man suffered the extraordinary loss of eight or ten ounces of blood regularly every three weeks. He declares that he was always made better by the bleeding; that letting a half a bowl of blood was like stimulating him; at all events, there is, in his long, active life, ample proof that the frequent blood-letting has never been especially detrimental to his health; for, until he retired from the pulpit, ten years since, he was a hard working minister and for many years a circuit preacher, in Western New York, and frequently was forced to make large circuits on horseback, exposed to the inclemency of all seasons; still his health has ever been good; nor is he to-day incapable of work—within a month he has assisted in the public dedication of a church in Chicago.

The demand for the blood-letting is shown by a dyspnœa, which he suffers the last three days and nights of the interlude; so extreme is this, usually, that he is obliged to spend the night in his chair, just before his bleeding day; besides the dyspnœa, there are other evidences of almost venous stasis in the dark, livid lip and the purple finger nails. Immediately after the bleeding, all

dyspnoea has disappeared; the lip is red, and the finger nails are no longer purple; besides this, the spirits of the old gentleman seem lighter; he grows talkative; his voice is no longer husky, and he seems in every respect better.

The appearance of the blood which is drawn presents nothing unusual; compared with the blood of healthy subjects, under the microscope, there does not seem to be a paucity of corpuscular elements.

Dr. Sawyer has made frequent auscultatory examinations of his lungs and heart, with this result, viz., the percussion resonance is slightly increased, over both lungs, more especially at the apices, and the respiratory murmur is less intense than one would expect through such thin chest-walls; in short, there is evidence of a moderate degree of vesicular dilatation. In this connection Dr. Sawyer adds that he has had, for years, a slight bronchial catarrh, but has never suffered from spasmodic asthma.

Examination elicited no evidence of organic change in his heart; the sounds are heard feeble but uncomplicated. The action of the heart is not rhythmical; strictly there is no intermission in its revolutions; a contraction of the organ is not omitted, but quite regularly, once in about seven pulsations, there occurs a too short interval between the revolutions; sometimes two of these short intervals are consecutive, and then the normal rhythm is observed for a moment. After bleeding, the abnormally short intervals occur less frequently than before.

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Tabetic Arthritis.

M. CHARCOT has, more than once, called the attention of the profession to the joint lesions which occur in locomotor ataxy, and in showing recently to the Société de Biologie a collection of bones presenting these changes, he gave a summary of their special characters. These are clinical as well as anatomical. The affection appears commonly during the period of "lightning pains" before the incoördination of movement. First, there is grating in the joint; then a collection of liquid in it, with hard œdema of the limb; after a time the joint undergoes a species of dislocation. It is always chronic, is not usually attended with pain, and does not shorten life. The anatomical character is a progressive disappearance of the articular extremities without any bony prominences. The bones appear as if they had been ground down. The affection would seem to be less rare than is commonly supposed, since M. Charcot has seen fifty cases. —*Lancet*, Aug. 14, 1875.

Surgery.

An Antiphlogistic Method of Dressing Operation Wounds.

MR. JONATHAN HUTCHINSON (*Lancet*, June 26, 1875) has for some time past been employing a plan of dressing operation wounds which has been attended by unusually satisfactory results. Thus in three successive cases of excision of the breast the wound healed by first intention. In one of the best not quite the whole of the gland was taken away, but as a number of glands were removed from the armpit the wound was of more than ordinary size. In this instance the woman left the hospital on the tenth day, with a sound linear cicatrix and in perfect health, there never having been any suppuration whatever. I have had many other cases of various kinds in which the results were nearly as good as this, the union being either literally by first intention or practically such. The plan adopted is so simple, in a certain sense so well known, and, indeed, so old-fashioned, that I have felt some reluctance to write about it. Several of my friends, however, who have obtained by it results quite as good as my own, have represented to me strongly that, as it is not in general use, it ought to be forthwith recommended. Hence my present communication.

The essential feature in the plan is to keep the parts cool, by the systematic application of a lead and spirit lotion. The lotion consists of half an ounce of liquor plumbi and an ounce and a half of spirit to the pint. An ample fold of lint wet in this is applied to the skin over and around the wound, and emphatic directions are given to the nurse to remoisten it every quarter of an hour or every half hour, according to the rate at which it dries. The skin ought to become whitened by deposit of lead. The application is to be commenced from six to twelve hours after the operation, and from that date all bandages are to be put aside, and the lint kept simply laid on the part. It is to be continued without intermission until the wound is perfectly sound—a week, or two weeks, as the case may be. It is very agreeable to the patient, and gives nobody any trouble except the nurse. It is not desirable to wake the patient out of sleep, but during the night every suitable opportunity should be used for re-wetting the lint. If the plan fails it will, in all probability, be from negligence in this matter.

The theory of the plan is, that, by keeping the parts quite cool and saturating the tissues with lead, inflammation is prevented. It appears to have no risks, except that, if very thin skin flaps have been left, it may be possible to over-cool them and cause gangrene. I have been in the habit of speaking of it as antiphlogistic, in contrast with antiseptic, but some of my friends have suggested that possibly it is antiseptic as well.

Although the above is the chief point, yet there are other minor matters which are probably of some importance as conducive to success, and which, although they are all of them well known to operators, I may perhaps be excused for mentioning. No blood should be left in the wound, nor should there be any risk of bleeding. Far better wait an hour or two than put up a wound prematurely. A drainage tube left in the most depending part of the wound is usually a safe precaution. In the case of removal of a breast I always make a counter opening at the most depending part and put the drainage-tube through this. It should be removed on the third day. I have no fear of either sutures or ligatures, but always tie with silk every bleeding vessel, and coapt the edges very carefully with numerous stitches. Great care should be taken that none of the latter are tight, and they should all be taken out on the third or fourth day. If the wound be prevented from inflaming there will be no suppuration about either sutures or ligatures, and often these will remain perfectly dry. After the sutures, strips of plaster, with narrow intervals, should be carefully applied, and these should remain on for five or six days. Over the plaster I always apply a lint compress wet with the lotion, and over this a mass of cotton wool, which is kept in place pretty tightly by a flannel bandage. This is applied to prevent oozing, and, as already said, is to be taken quite away in from six to twelve hours.

Of course if there is any tension on the edges of the wound, union by first intention can scarcely be hoped for, and every endeavour should be made to secure easy coaptation. If it be a matter of necessity to leave part of the wound open, the lead lotion may be still used, and is yet more necessary. I have never witnessed any ill results from absorption of lead, and I feel confident that in many cases of open wounds so treated diffuse inflammation has been prevented.

If, in spite of precaution, blood-clot has accumulated in the wound, or if suppuration has occurred, then at once cut the sutures freely and reopen the wound. Syringe the wound out or not as may seem desirable, but on no account desist from the lead-lotion.

In concluding this short paper, I feel that the simplicity of the recommendation almost calls for an apology to the reader. I am hopeful, however, that those who will try it will not consider that it needs one on any other ground.

The Subperiosteal Method.

Prof. SPENCE, in his Address in Surgery before the British Medical Association (*Brit. Med. Journ.*, Aug. 14, 1875), made the following remarks on subperiosteal surgery. From the progress in the surgery of fractures, I am almost

inevitably reminded of some of the most brilliant improvements in surgery arising from our advance in the knowledge of the anatomy and physiology of the periosteum and the nutrition of bone. With the progress of this department of surgery the name of Ollier of Lyons must always be connected, as the man who has given it the greatest practical impetus; but those who recollect the experiments of the late Professor Syme, and the memoirs of the late Professor Goodsir on the structural anatomy and nutrition of bone, must credit these eminent men with no small share of our advance. The practical application of the subperiosteal method of operating is perhaps seen to the greatest advantage in such operations as that for closing the cleft in the hard palate, and in partial removal of bone in some conservative operations.

In excisions of joints, I think the subperiosteal method must be used with discrimination. In cases where, as in the lower extremity, a firm solid support, and not a movable joint, is desired, its value is at once evident; and perhaps in some excisions of the upper extremity, in which we require to remove a very large amount of bone. In ordinary excisions of the upper extremity, we are more troubled with redundancy than with deficiency, and generally require to remove a considerable amount of bone to prevent ankylosis from occurring; but in truth, in a great many cases, the question is settled for us by the disorganized state of parts on which we operate.

There is one class of cases in which subperiosteal surgery seems likely to achieve some brilliant successes: I mean cases of acute necrosis, as they are called; in other words, cases in which inflammation of the dense shaft of a long bone has been so rapid, general, and violent, that nutritive changes seem arrested; and the bone separated, or nearly separated, from the investing periosteum, is exposed, with its surface bare, smooth, and white, as if dead. Although in such cases the constitutional disturbance, at first from irritative fever, and subsequently from hectic, always places the patient's life in great jeopardy, and though the tendency of the local action to spread to the epiphyses and involve neighbouring joints is very great, we have hitherto been content to wait patiently, often most anxiously, for nature to separate between the dead and living bone, before interfering. In cases where the state of the patient seemed to point to amputation as the only chance for life, the results have been so unsuccessful, that I think it scarcely warrantable. Now, however, by separating any remaining connection of the periosteum, and resecting and removing the diseased portion of the shaft, the long process of separation is avoided; the constitution is saved the tax on its powers from discharge, irritation, and hectic; the periosteum which is left furnishes new bone to take the place of that removed by the surgeon; and the limb gradually assumes its normal form and usefulness. Here, it would seem, we have clear advance in the treatment of disease; and I believe it is a real and great progress. Still we must look at it carefully from different points of view, so as to make sure of this, and avoid injury to the method from its being practised indiscriminately, or in improper cases, or during unfavourable conditions. We must remember that, in what we call acute necrosis, the loss of vitality seldom extends to the whole thickness of any great length of the bone; that, whilst the periosteal sources of nutrition may be largely or entirely cut off, the vascular supply and nutrition of the medullary canal and the ossific centres may not, and rarely are so to the same extent; and hence we can never be sure for some time how much of the affected bone may really perish, whether there may be a large portion to separate ultimately, or merely superficial exfoliations; or, as I have known, the whole surface of a long bone like the tibia may be exposed bare and white, and yet granulate and heal without a vestige of exfoliation occurring.

But, whilst I think it right that these things should be kept in mind, lest we interfere ultroneously and remove texture which natural processes would have saved, on the other hand, looking at the matter practically, when we see a patient suffering from hectic or occasional hemorrhage from ulceration of vessels near the diseased bone, and when we consider how long he must be exposed to such sources of debility before the dead bone separates, and the risk of the implication of neighbouring joints occurring and necessitating amputation, I am shut up to the conclusion that resection and removal of the affected bone

must be often indicated; and that, if the cases for its performance be judiciously selected, and the operation be properly effected, this method will be found to be a most valuable addition to our resources.

The important question, no doubt, arises, How far can we trust to the reproduction of new or substitute bone from the periosteum, when the whole thickness and nearly the whole length of a long bone like the tibia has been removed by operation? And this question not unnaturally suggests itself, because we know from experience that under the expectant plan, when large and long sequestra were removed, the thickness of the shaft was never renewed to its full extent, although under that method we had both bone and periosteum to furnish new material. Here, for example, is a specimen, showing a large sequestrum removed when loosened by Nature, and a cast of the leg showing the appearance of the limb after the cure was completed. During last winter, Dr. MacDongall of Galashiels, now of Carlisle, exhibited a child to the Medico-Chirurgical Society of Edinburgh, in whom he had resected the tibia in a case of acute necrosis, and the thorough reproduction was well seen, and the use of the limb was perfect. In April last I operated on a similar case, and resected the shaft of the tibia close to the epiphysis at each end, after separating the periosteum. Here is the portion removed; and as the case is still in hospital, the members of the Association can judge of the probable result, so that I think we may trust to the periosteum for entire reproduction of the part removed.

To these and similar successful cases it may be objected that in cases of compound fractures, when the broken bone protruded, divested of periosteum, resection of the denuded bone was and is frequently practised; but experience has shown in such cases that, when the portion of bone so removed is large, reunion is almost never perfect; the ends of bone are atrophied and joined together by a tough fibrous material; or, in the case where there are two bones, as in the leg and forearm, the ends of the resected bone approximate and unite with the other bone. A little consideration, however, will show that there is really no parity between such cases and resection for acute necrosis, because in the case of compound fracture the periosteum is not merely separated, but is generally so torn and bruised that its vitality is destroyed, or so impaired that its reproductive powers are rendered very imperfect; whereas in necrosis its vascularity is increased, the membrane thick and flesh-like, and it almost invariably carries with it small nuclear portions of bone-tissue.

On a new Operation for the Obliteration of Depressed Cicatrices after Glandular Abscesses or Exfoliation of Bone.

MR. WILLIAM ADAMS, of London, at the recent meeting of the British Medical Association (*British Med. Journal*, Aug. 28, 1875) presented a paper on this subject. His operation consists of the following steps: 1. Subcutaneously dividing all the deep adhesions of the cicatrix by a tenotomy-knife introduced a little beyond the margin of the cicatrix, and carried down to its base; 2. Carefully and thoroughly everting the depressed cicatrix, turning it, as it were, inside out, so that the cicatricial tissue remains prominently raised; 3. Passing two harelip-pins or finer needles through the base, at right angles to each other, so as to maintain the cicatrix in its everted and raised form for three days; 4. Removing the needles on the third day, and allowing the cicatricial tissue, now somewhat swollen, succulent, and infiltrated, gradually to fall down to the proper level of the surrounding skin. Three cases, in which the operation had been performed by Mr. Adams, at periods varying from eleven, nine, and three years from the present date, were adduced in illustration. In the last two cases described, one resulting from glandular abscesses in the neck, and the other from necrosis of the inferior maxillary bone, all traces of the depression were removed, and the cicatricial tissue alone could be seen; but it was perfectly on a level with the surrounding skin. In texture and in appearance this cicatricial tissue had so much improved, having lost its shiny, membranous and vascular character, and become thickened and of an opaque white colour, that it closely resembled the surrounding skin. In the first case, which had resulted from a bullet-wound, and a portion of the malar bone had

been carried away, although the depression could not be entirely obliterated, very great improvement had resulted from the operation. The permanency of the operation was placed beyond all doubt by the last two cases described, one nine, and the other nearly three years since the operation; and the completeness of the obliteration of the depression; and the improvement of the cicatricial tissue surpassed Mr. Adams's most sanguine expectations. Mr. Lund (Manchester) had a case some time ago in a young gentleman who lost a portion of the bone below the orbit, a depressed cicatrix being left. He had operated without Mr. Adams's improvements; and, when he saw the case last, the cicatrix had fallen back to its old state. The patient wished to be again operated on; and, although he was unwilling then to do so, yet he might with Mr. Adams's needles give him a further chance. He would like to know what dressing Mr. Adams used. He thought that, in such cases, the cavity might be nicely filled up with blood-clot, the uses of which they had seen in Mr. Lister's demonstration. It would be important to prevent suppuration in the line of the needles. Mr. Adams did not use any dressing except collodion in one instance. In only one case had he any bleeding. The needles were removed on the third day, with a little suppuration in one case, but none in the others. The only difficulty he had was in avoiding veins. Dr. Hardie (Manchester) had found a difficulty in operating on depressed cicatrix by one puncture. At Mr. Adams's suggestion, he had so treated a case of depressed cicatrix over the malar bone large enough to admit the little finger. It had been unsuccessful; and he had, therefore, dissected the cicatrix out, and by wire sutures brought the edges together. A small linear cicatrix only remained after three years; and there was no recurrence as in Mr. Lund's case.

Mr. LISTER thought that the plan was undoubtedly ingenious; and there could be no harm done if, in the dissection, no veins were wounded. The operation was subcutaneous, and the pins pressed on sound tissue. Experience would show if the cure were permanent. He himself would prefer to dissect out the skin, and, using button-sutures, get primary union with a linear cicatrix. Mr. Adams had cut out the cicatrix in one of his cases. There was necessarily, however, a scar. Mr. Lister did not quite understand how there was no scar in Mr. Adams's cases. He thought there must be an improved scar. Mr. Adams explained that the scar became thicker and less conspicuous, because more like the surrounding textures.

On the Origin and Treatment of Purulent Ophthalmia.

In the *Wiener Medizinische Zeitung*, May 25, Professor ARLT brings to an end a series of papers upon purulent ophthalmia, and in a short *résumé* thus sums up the conclusions at which he has arrived. Although purulent ophthalmia very commonly appears amongst the members of communities, yet it not unfrequently attacks the eyes of individuals amongst the poorer and lower classes, who are already suffering from any of the milder forms of ophthalmia; it matters little what the nature of this may be, whether it be granular or trachomatous, or any other variety of the inflammation; it may appear after a long or a short interval, and it may lead to rapid destruction of the eyesight by invading the cornea, or to its slow and gradual extinction by causing trichiasis and entropium. In many cases minute grayish bodies may be seen on the under surface of the upper lid, and especially in the mucous membrane above the lid. The ophthalmia is generally acute if it be caused by inoculation from the genital organs, but it is usually chronic when it spreads from eye to eye, or when it is brought about by exposure to draught. The activity of the contagious matter depends much upon the concentration of the material, and upon the length of time during which the conjunctiva is exposed to its influence; its power is favoured by heat and retarded by cold. The occurrence of one single case within a community may lead to the appearance of an epidemic, the contagion being conveyed as much by the air as by all kinds of instruments and utensils, more especially when the weather is warm and moist. It appears that the disease may have its origin in atmospheric influences alone, such, for

instance, as sudden changes of the weather, and if the air be charged with dust or smoke. According to Professor Arlt, it is not certain that purulent ophthalmia is more rife amongst military than in civil communities, nor does it appear to him conclusively shown that the disease had its origin in Egypt, inasmuch as Egypt was esteemed by the Greeks and Romans as a very healthy country, and the assertion that Cyrus applied to Egypt for the aid of physicians does not prove more than that the Egyptians in those days were a cultivated people, and were in a position to afford the assistance which was asked. There is no reason to suppose that there is any change of structure in the eyes of scrofulous subjects which should render them especially liable to the disease.

In conclusion, as regards treatment, Professor Arlt is quite at a loss how to suggest any safeguards against the disease; for, although we look upon it as contagious, we cannot isolate all or any who have been exposed to it, and it very frequently happens that those who have been exposed are utterly unaware of the fact, and but too often unwilling to submit to any treatment until the disease is far advanced, and according to our present knowledge it would be quite impossible for medical men to examine the eyes of all of those under their care, and who may in any way have exposed themselves, or whose eyes may at any time become attacked.—*London Med. Record*, Aug. 16, 1875.

On Iridectomy as an Aid to the Extraction of Cataract.

The *Bulletin Général de Thérapeutique* (May 15 and 30) contains an elaborate analysis of one hundred and fourteen operations for extraction performed by Dr. DEZANNEAU, from the results of which he draws certain practical conclusions as to the value of iridectomy as an adjunct to operations for the removal of cataract. In every instance the pupils were dilated with atropia, on the ground that not only was the iridectomy rendered easier, but the removal of the lens was thereby facilitated. With the exception of one case, and this a cause of regret to Dr. Dezanneau, no anæsthetics were employed. The eyelids were separated by means of a common retractor, and the fixing forceps was only made use of during the section of the cornea, the excision of the iris being accomplished without any other aid than that of the retractor. The excision was always made upwards, and very freely. The section of the cornea which Dr. Dezanneau performed in all his cases, and which he strongly advocates, is a section exactly at the sclero-corneal junction, so as to make a flap which shall embrace about the upper third of the cornea, and exactly parallel to the plane of the iris. This section is all the better if there be a small conjunctival flap also. At the third stage of the operation, most scrupulous care is taken to remove all *débris* of lenticular matter, but without using instruments within the eye. This is brought about by gentle friction and manipulation. Subsequently to the operation the patients were confined to bed for one day, and a compressive bandage was employed for one week; the eyes were not examined at all until the fourth or fifth day. As the result of one hundred and fourteen operations, complete success followed in eighty-eight, in seventeen there was but a partial success, and in nine the vision was not improved; in no single instance was the eye lost. By complete success is meant the ability to read ordinary type for any length of time, with the aid of proper glasses; and by incomplete success is meant the power of seeing all large objects, but without the power to read or write. As regards the value of iridectomy, Dr. Dezanneau considers that it does not render the operation more dangerous by causing hemorrhage into the anterior chamber, or by facilitating any loss of vitreous humour; nor does it favour the formation of secondary cataracts, with all of which faults it has been reproached. On the other hand, an iridectomy appears to ward off, or at least to modify exceedingly, any subsequent inflammation. If the excision of the iris be complete and cleanly done, it is not the cause of imperfect healing of the corneal wound; and the results of extractions in which it has been performed are in no way inferior to those obtained by the old method. To use Dr. Dezanneau's words, "Iridectomy adds no serious difficulty to the operation for extraction; on the contrary, it facilitates the

removal of lenticular matter in many instances, and without it some cataracts could not be removed at all; while it almost certainly protects the eye from grave inflammatory troubles which would otherwise compromise the result of the operation."—*London Med. Record*, Aug. 16, 1875.

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Statistical Review of Operations for Tumours of the Superior Maxilla.

Dr. OHLEMANX, of Bremen, has furnished (*Archiv für Klin. Chirurg.*, xviii., 2, 1875), in tabular form, the statistics of thirty-two cases of tumours of the upper jaw, where complete or partial resection was done. It appears that the entire jaw was removed fifteen times, and part of it twice for carcinoma. Five sarcomatous tumours classed as giant-celled, three as spindle-celled, one as round-celled, and one as medullary, were operated on. Cylindromata twice required partial resection; epitheliomata twice an almost complete resection; an enchondroma once a total resection. Out of twenty total resections there were three deaths and seventeen recoveries, while of twelve partial resections there was no death. Fifteen per cent., therefore, represents the total mortality. Dr. O. calls attention to the much larger proportion of carcinoma than of medullary sarcoma among these cases than in those of O. Weber. He finds that carcinoma is much more frequent in middle and advanced life, and is twice as frequent among men as women. He thinks that in some cases the tendency to the disease is undoubtedly hereditary. After the sixth month, the pain, inconvenience, and disfigurement make the patient generally quite ready to submit to an operation.

The ultimate result of the cases of carcinoma was fatal after an interval of from one to three years, the disease recurring in the cicatrix. Still he considers that the operation should be undertaken in these cases, provided the disease be not so far advanced as to make it impossible to separate the diseased from healthy tissues, because it prolongs life and alleviates suffering. In cases of epulis, the operation, with the aid of Liston's forceps, has in all cases resulted in cure. The operation itself was generally performed with the patient sitting up, the head supported on the breast of an assistant, and it was the subject of remark how well so severe an operation was borne. The incisions in the skin had to be variously modified in view of the size and situation of the tumour; but it was found that some disfigurement, from sinking in of the cheek, and distortion of the mouth by contraction of the cicatrix, was unavoidable. The only exceptions to this were in two cases where the tumour grew in the direction of the nasal cavity, when Dieffenbach's incision was made use of with the best results, and in some cases where the growth sprang from the alveolar process, and no wound of the skin was required in its removal. Liston's bone forceps were used for detaching the upper jaw from its bony connections, and Langenbeck's forceps for removing the loosened portions. After thorough removal of all diseased tissue, the wound was filled with carbolized lint, and the edges united with sutures. In the after-treatment it was thought very important to prevent the flow of secretions from the wound into the mouth, through the opening left in the palate. Antiseptic solutions were therefore assiduously used so that pulmonary complications should not be set up. Secondary hemorrhage led to a fatal result in two cases, and erysipelas also occurred, mainly owing probably to the bad sanitary surroundings in the hospital. Patients usually were able to leave the hospital, cured, after from two to four weeks. Dr. Ohlemann furnishes the details of seven cases, to illustrate various points on the subject.—*Med. Record*, Sept. 4, 1875.

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Excision of the Thyroid Gland.

Dr. P. HERON WATSON, of Edinburgh, read a paper on this subject at the late meeting of the British Medical Association (*British Med. Journal*, Aug. 28, 1875). He noticed the opinions of surgical authorities on the subject, and described five cases in which he had operated, one of them being fatal. He recommended attention to the following particulars. 1. The external incision

should extend from the larynx to the sternum, if the tumour be large and spread widely in a lateral direction. 2. The vessels—arteries and veins—should be secured as they are divided. 3. The fascia should be opened as widely as the skin; and, if the tumour be large, the soft parts may be divided transversely as far as the sterno-mastoid muscles. 4. The delicate investing fascial sheath of the thyroid body should be left undivided until the vessels included in it have been tied. 5. After the mediate ligature of the thyroïdal vessels in the cellular sheath, the capsule of the thyroid gland should be opened by stretching through it in the middle line, and the attachments of the goitre carefully divided by blunt-pointed scissors curved on the flat. There should be no tearing away of the gland. 6. If bleeding occur after the separation of the tumour, from any of its vascular attachments, the vessels, if they are to be secured, should be tied *en masse* along with the cellular sheath. Mr. Lennox Browne (London) felt that the operation for goitre was one of which he could not approve, simply because it was unnecessary. In none of the cases did there seem to be dysphagia or difficulty in breathing. The first case was typical, viz., a young lady with a goitre about the size of a China orange. When an incision was made from the larynx to the sternum, the cicatrix caused a worse deformity than the goitre itself. But there were other means of removing the gland equally certain, and leaving no mark. There were four varieties of goitre, viz., simple, fibroid, cystic, and fibro-cystic. In the simple, counterirritation by the red iodide of mercury was sufficient. In the fibroid, injection of iodine into the substance of the gland produced most wonderful results, without any resulting deformity. In the cystic, he used to inject iodine. He now, however, tapped, injected with perchloride of iron, and plugged the canula. In about forty or fifty cases, there had been only one death. In the fibro-cystic form, setons were of great value; or Maisonneuve's darts of chloride of zinc might be used. He therefore believed that the operation was unnecessary; and, although it was brilliant enough, it was better to try milder measures, remembering the aphorism of Hippocrates, viz., "to cure the patient with as little harm as possible." Mr. Lister said that he had only seen Dr. Watson's unsuccessful case. The principle, however, seemed a sound one. An improvement he had made was to subdivide the part ligatured, and ligature each half. The larger the tumour was, the greater the risk. If it were large and overlapped the carotid sheath, it was important to tie the tissues with the vessels at such distance that, when the fascial sheath was divided, there should be no risk of hemorrhage from the ligature slipping. He therefore passed an aneurism-needle from the middle to the side, and divided the ligature. He next passed a needle along one of the threads, and, pushing it through the tissues, cut the thread. He then withdrew the needle, and tied the ligatures. The gland could then be dissected out without bleeding. In the first case, the gland enveloped the trachea, and overlapped the carotid sheath. The second was extremely vascular, was principally on one side, and largely overlapped the carotid vessels. One vein, during the operation, was so large as to look like the internal jugular. The operations were performed antiseptically. There was no suppuration in one case, and only a little tension in the other. Hemp was used for the thyroid vessels, as the catgut was hardly strong enough. Dr. Thomas Keith, however, had shown him some, kept for five years, which was exceedingly strong, and, by twisting it in strands, it could be used for any purpose. In both the cases operated on there was severe dyspnœa. Dr. Watson said that, perhaps, he did not go into symptoms sufficiently, so as to settle, to the satisfaction of some, the propriety of operating. In all his cases, there was difficulty in deglutition, stridor of breathing, and affection of the general health. The operations were certainly not undertaken as a *dernier ressort*, just as it was not the custom in tracheotomy to operate at as late a period as possible. In goitre, if they waited until the patient was suffocating, there would be a risk, not only of disfigurement, but of death. The disfigurement was large when the incision was made; but, even after twenty-four hours, there was great contraction. In one case, an incision of seven inches contracted to an inch and a half. In regard to Maisonneuve's *flèches*, he had heard of a case where the incision for their introduction was followed by severe bleeding. This was arrested by lint strips.

After the separation of each slough, bleeding also took place; so that the patient was in great danger, and ultimately recovered, with various cicatrices, to which no linear one could be compared. He had employed injection with iodine in many cases without admirable results. In cystic goitre, whether unilocular or multilocular, he would not operate until he had tried tapping. In all his cases he had done so. In his first, he had tapped and injected; but other cysts appeared. He therefore deemed it inexpedient to wait and operate as a *dernier ressort*. In the cases operated on, both his colleagues and himself were satisfied as to the necessity of operation.

Case of Recovery after Complete Division of the Larynx and Œsophagus.

S. HENSCHEN reports the following remarkable case in the *Upsala Läkare-förening's Förhandlingar*, Band x. (abstract in *Nordiskt Medicinskt Arkiv*, Band vii.).

A peasant aged forty-three attempted suicide by cutting his throat with a knife, and then with a razor. On the front of the neck was a transverse gaping wound four and a half inches long, the ends of which passed through the skin and subcutaneous tissue, laying bare the sterno-cleido-mastoid muscles. In the centre it exposed the prevertebral fascia, which was cut. The incision had thus divided the trachea and Œsophagus, and the recurrent nerves.

The cricoid cartilage was divided just below the vocal cords; the upper part of the cartilage was drawn upwards with the larynx, while the lower was drawn down with the trachea. Around the upper end of the trachea the surrounding tissues had swollen and pressed on the opening, which was also partly covered by a piece of the wounded thyroid cartilage; respiration was considerably impeded. Behind the trachea, though with difficulty, the end of the divided Œsophagus was seen. This had been so much drawn down towards the thorax that it was only with great difficulty, and after a search of two hours, that Dr. Landgren was able to find it at the bottom of the wound, and to prevent its further retraction by passing some suture threads through it.

At the side of the Œsophagus the carotid arteries in their sheaths were seen quite unhurt. The bottom of the wound was formed by the prevertebral aponeurosis, which was wounded at one part, so that a probe introduced into the opening passed back to the vertebræ. At the upper part the wound was limited by the upper part of the Œsophagus, or perhaps more correctly the pharynx and larynx, in a state of œdematous swelling: the inferior vocal cords lay exposed.

The space between the upper and lower ends of the Œsophagus was so great that a closed hand could reach the bottom of the wound when the patient lay with his head bent backwards.

From the pharynx and larynx there constantly escaped quantities of saliva and buccal secretion, which, mixed with the discharge from the wound, threatened to block up the trachea, as the patient could not swallow nor free his mouth by coughing.

The first question naturally was, how to feed the patient, and at the same time make the breathing less difficult. By means of an œsophageal tube he was given abundance of milk, raw eggs, wine and water, and afterwards infusion of meat, prepared by hydrochloric acid at a temperature of 113° to 116° Fahr. He bore the food very well.

In order to prevent the discharge from the wound and the saliva from running down the trachea, and to favour its escape, the patient was laid on his side, and was kept clean by the assiduous use of sponges and charpie. The flap of thyroid cartilage lying over the opening of the trachea had to be cut away. The patient's condition was tolerably good, and there was no general reaction.

An attempt was made to unite the two ends of the Œsophagus by sutures. But as these could not be brought accurately together by simple traction, it was found necessary to separate them from the surrounding parts both above and below. At the lower part, this was done easily enough, partly with the

edge and partly with the handle of the scapel, but above some dissection was necessary. Four sutures were now introduced into the œsophagus, two behind and two in front, and an œsophageal tube was introduced for the purpose of being retained. By means of traction and placing the patient's head in a favourable position, the two ends of the œsophagus could be approximated to within about half an inch, at which point the sutures were tied.

It was found impossible to invaginate the upper portion of the œsophagus into the lower one. The patient retained the œsophagus tube without difficulty; for some days a solution of bromide of potassium was applied to the throat.

It seemed impossible even to attempt to unite the trachea, as the larynx (in consequence of the division of the recurrent nerves) was partly paralyzed, and with each act of deglutition the whole of the buccal secretion was carried down through the larynx, so that the closing of the trachea was incompatible with the employment of the necessary means for cleansing the tube.

By means of abundant granulation, the wound soon assumed the form of a funnel, the lower part of which was formed by the trachea, where all the secretion was collected. It was difficult to prevent this from closing the tube, but fortunately the patient learned, with the help of a hand-mirror, to dress his wound.

During the next two weeks the patient's condition was less satisfactory than before. He had slight fever, lost his appetite, and an erysipelatous redness appeared around the edges of the wound. Afterwards, however, his strength increased under the use of nutritious food, quinine, etc., and in a month he was able to return home. In the anterior part of the œsophagus there was still a small opening of the size of a small goose-quill. Around the trachea induration had taken place, which kept the aperture open, even when a trachea-tube was not used; the wound had become filled with granulations; suppuration had nearly ceased, and the edges of the wound had united.

After he had been at home two months, the patient was obliged to remove the œsophagus tube, which had become plugged with remains of meat, etc., and he found that without much difficulty he could swallow small pieces of bread, etc. Drink, however, escaped from the fistulous opening in the œsophagus through the trachea; the patient, therefore, of his own accord, plugged the opening with charpie, which naturally prevented healing of the fistula. After five months the patient was admitted into the Seraphim Hospital, to have a stricture of the œsophagus dilated. His general health had been continuously good, but he was of course deprived of the power of speech.—*London Med. Record*, Aug. 16, 1875.

A Century of Operations for Stone.

Prof. DITTEL, of Vienna, in the *Wiener Med. Wochenschrift* for June 19, gives a general summary of 100 operations for stone, the abstracts of the cases of which he published in preceding numbers. Of these 100 operations, 65 proved successful and 34 fatal, 1 case still remaining under treatment. There were 54 cases of lithotripsy, with 13 deaths (or 24 per cent.), and 46 of lithotomy, with 21 deaths (or 45 per cent.). This, he observes, is a high percentage, but he is not deterred from stating it by the fear of being considered unskilful or unlucky. There are, indeed, some set-offs to be made before the true percentage can be stated. Thus, of the 13 lithotripsy fatal cases, 2 died of pneumonia, 1 of aneurism of the aorta, 1 from the perforation of a suppurating diverticulum of the bladder unconnected with the operation, 4 from marasmus (in which state the patients were at the time of the operation), and 5 from nephritis either connected or unconnected with the operation. Whether this operation should be performed upon patients in a state of marasmus may be disputed; but in Prof. Dittel's opinion it is justifiable in some cases as a palliative for the relief of dreadful suffering—just as morphia is administered in hopeless phthisis. At all events, death in the first four of the above cases was independent of the operation, which reduces the mortality due to the operation to 9 cases in 54, or 16 per cent. Of the 21 fatal cases of lithotomy, 1 died

from pyæmia consequent on suppuration of the tibialis posticus muscle, 1 from perforation of a suppurating diverticulum, 1 from excessive anæmia, 1 from marasmus, 2 from hemorrhage of the median artery of the prostate, 7 from diphtheritis of the wound, 5 from chronic Bright's disease, 2 from acute nephritis, and 1 from unknown causes. The first two deaths arose from unforeseen complications, and in the next two cases the operation was performed from mere compassion, as a means of merely relieving intense suffering for the time, which it completely succeeded in doing. Abstracting these four cases the mortality remains 17, or 36 per cent. As to operating in cases of Bright's disease, Prof. Dittel states that he recommends this because in some cases the disease becomes arrested, and at others greatly delayed in its progress. In one remarkable case the patient underwent, with the best results, two operations by lithotripsy and one by lithotomy.

Of the 100 patients, 97 were males and 3 females, all the latter being cured by means of lithotripsy. The ages of the patients were as follows: 8 between three and seven years, 6 between ten and twenty, 13 between twenty and thirty, 9 between thirty and forty, 11 between forty and fifty, 31 between fifty and sixty, 17 between sixty and seventy, and 2 between seventy and seventy-six. In 3 the age was unknown. As to the composition of the calculi, 21 were pure phosphates, 6 oxalates, and the others uric acid nucleus with phosphatic—and rarely oxalate—external layers. As confirmatory of the usually unfavourable prognosis attending oxalate calculi, the five lithotomy operations for these all proved fatal, the sixth case recovering after lithotripsy.

Considerable enlargement of the prostate adds to the danger of lithotomy by necessitating a longer incision, and if the posterior commissure also contains much parenchyma, it has also to be made deeper. The posterior commissure may, however, remain in cases of enlarged prostate as in the normal condition, and then the incision has to be long, but not deep. When the median operation, which Professor Dittel always employs, is executed in such a case, profuse parenchymatous hemorrhage is avoided. In lithotripsy the enlarged prostate renders the introduction and manipulation of instruments more difficult, as well as the removal of the detritus. In six of the cases great bilateral hypertrophy existed, and four of these were operated upon by the lithotripsy, two by cystotomy, a death occurring after each operation. Unfortunately, prostatic hypertrophy leads to an enlargement of the *sinus* of the prostate, and this may become filled with immovable detritus or by the wedging in of a fragment. As a general rule this is either dislodged by the urine, or it can be forced back into the bladder by a large catheter or ramasseur; but when the whole sinus becomes thus obstructed, and the detritus cannot be dislodged, intense reaction is set up, whether retention of urine is present or not. In such a case median incision is called for, and this was executed in four out of the seven cases in which considerable fragments became thus wedged in. Seven such cases in fifty-four lithotomy operations, Prof. Dittel admits to be a large number of examples of such an occurrence, and he does not recollect any other operator reporting so many. In five other cases also he had to resort to lithotomy after lithotripsy; in three on account of the impatience of the subjects, once because of the hardness of the stone, and once because of its size. Of these nine double operations, five were attended with recovery and four proved fatal.

A slight degree of cystitis or catarrhal and calculous pyelitis should not contraindicate either operation; but among these cases there were three examples of a more advanced stage of these affections, which recovered under lithotripsy. But three cases of suppurating pyelitis died after lithotripsy, and one after lithotomy. With regard to cystitis alone, experience shows that it becomes ameliorated after each sitting, while if it has never been present it is induced by the first sitting to disappear again after subsequent sittings. The explanation is, that the diseased bladder is gradually freed from the presence of calculi and the accompanying catarrh, while the healthy bladder, that had become accustomed to the contact of a smooth stone, is irritated after the first sitting by the innumerable spicula and points produced. Urine of a bloody colour, which sometimes appears after a first sitting, should cause no uneasiness, for all but large stones must be seized hold of while in contact with the

mucous membrane, some of the superficial vessels becoming ruptured; and the occurrence of such bleeding does not justify the suspicion of the mucous membrane having been grasped. In lithotomy, Prof. Dittel only employs anæsthetics exceptionally, in very sensitive persons. Thus, in fifty-seven operations he only used it eleven times.

Prof. Dittel states the following as contraindications to lithotomy: 1. A urethra which is either too narrow for the instruments in use or has become so in consequence of a narrow, long, hard stricture. Even after the widening of this has taken place, the secondary dilatation existing behind it will always remain a considerable cause for the accumulation of detritus. 2. Hypertrophy of the prostate, with intense vesical catarrh. 3. Acute cystitis and pyelitis. 4. An advanced degree of parenchymatous disease of the kidney. 5. A very hard stone that resists energetic attempts at lithotripsy. 6. A very large stone in a sensitive bladder, which, applied, closely to the calculus, causes intense suffering. 7. Childhood below the age of twelve or fourteen. Beyond these extreme circumstances the choice of the operation is much a matter of personal consideration and trust in one's own dexterity—it generally happening that in proportion as he acquires more dexterity in it, the operator finds that the circle of the application of lithotomy expands.—*Medical Times and Gazette*, Aug. 21, 1875.

Treatment of Ununited Fractures.

Prof. SPENCE, Surgeon-in-Ordinary to the Queen in Scotland, in that part of his able Address in Surgery, delivered at the recent meeting of the British Medical Association (*British Med. Journal*, Aug. 14, 1875), in which he discussed the various operations for the cure of ununited fractures, said: "There is a method of treating ununited fractures, especially at an early period, which I do not think has had sufficient notice taken of it, nor been sufficiently or fairly tried; I mean the plan proposed and practised by my predecessor in this University, the late Professor Miller. The method consists in entering subcutaneously a long narrow but strong knife; passing it on to and between the ends of the ununited bone, dividing freely the fibrous union, scraping the ends of bone, and slightly separating the periosteum; then the limb is carefully and firmly bandaged and placed in appropriate splints. I know that this plan has never had much favour; perhaps it seemed too simple to effect the purpose, and it was derided and declared to be inefficacious by some who professed to have tried it. But I also know that I have frequently used it, and have generally found it successful when the knife has been effectively used, and the after-treatment carefully carried out. I have, indeed, so strong an opinion of the efficacy of this method in comparatively recent cases, that I do not think it warrantable to proceed to severer measures until this simple one has been fairly tried, and I purposely mention it here to press it on the attention of the profession."

On the Treatment of Club-Foot.

Dr. W. J. LITTLE, of London, presented a paper on this subject to the Surgical Section of the British Medical Association at its late meeting (*British Medical Journal*, August 28, 1875). He first alluded to Stromeyer's great discovery of subcutaneous tenotomy, published in 1831. In 1836, he himself, by the study of specimens in the museums at Berlin, came to the conclusion that contraction of the tendo Achillis was not the only cause of distortion; but that the anterior and posterior tibials were also effective. Accordingly he had, as early as 1837, divided the tendons of these muscles in cases where it seemed necessary. After showing the average age at which patients were operated on had gradually decreased from eighteen years to a few weeks or even days, Dr. Little went on to consider the causes of imperfect cures or relapses of the deformity after an apparent cure. These he considered to be the following: 1. Omission of operation at an early period. The earlier the period of operation, the more perfect would be the cure. Operation might be practised the day after birth. 2. The undue importance attached to the division of the tendo Achillis alone. 3. The

treatment by instruments where the patient's foot was kept too long in a fixed position. By this, the healthy use of the joint was lost. 4. The entrusting of the after-treatment too much to attendants, instead of to the surgeon himself. The excellence of the results would be in proportion to the amount of personal attention paid by the surgeon. Not a single day should pass without his re-applying the apparatus. 5. The insufficient estimate of the difficulties sometimes met with by the operator, and his consequent neglect to inform the parents of the true nature of the case. He was in the habit of informing parents that the after-treatment of the case would be required to be attended to by them until their child had arrived at an age when it was responsible for itself. 6. Improper use of apparatus in those cases where the cure had not been completed before the patient was able to walk. In relapsed cases, he deprecated redivision of the tendon, or resection of the muscle itself. The heroic proposal to divide all the tissues *en masse* between the skin and tarsal arch was unnecessary and useless. Even although there was no risk of bleeding, and though the divided nerves united again, still there would probably be pain and risk. He had endeavoured from an early period to simplify the mechanical appliances employed, whether or not any cutting operation in each particular case be needed. During the last ten years, he had gradually advanced to the present state of his experience that every case of congenital varus in an infant under nine or ten months of age requires absolutely no other mechanical appliances than a roller bandage and one or more padded metallic splints successfully adapted to the limb, in proportion as its form and position improve, and that more elaborate apparatus based upon Scarpa's or Stromeyer's modified Scarpa's shoe, or upon steel and India-rubber springs, with leg-irons, is only required when either ill-fortune, inattention, or neglect has prevented the treatment from being carried out early or in a thorough manner. He laid down the following rules. Whether or not any division of tendons be deemed necessary, commence the treatment at the earliest period the health of the infant, the state of the mother, and other circumstances, permit, even within twenty-four hours or the first week of birth. If in doubt as to need of operation, "take further advice," or try gentle mechanical treatment only, by means of his splints, for a few weeks. Whether or not any operation be performed, remove and reapply the splint at least once in each twenty-four hours, and whenever it appears to be seriously displaced. Practise and teach the nurse to effect, daily or oftener, gentle manipulations, pressings and stretchings of the distorted parts towards the desired form and position, and guard against the ankle losing any portion of its natural movement; overcome thoroughly the inversion of the foot and the contraction of the sole before attempting to bring down the heel, especially if resort be had to operation. However favourably the case may progress, do not permit the part to assume for a moment any portion of the former evil position, from which the treatment may have gradually rescued it, or allow the child on any pretence to be placed on the foot before full natural eversion and bending can be readily effected by the attendant and anatomically or spontaneously by the child. A well-treated successful case of severe congenital varus can apply the sole and heel properly to the ground with the toes turned out, and walk at the age of twelve to sixteen months as well as a sound child. In conclusion, Dr. Little showed how he considered a cure of club-foot could be effected before the child was twelve months old, so that not only should the foot be perfect in shape, but also in function. This consisted in the application of a well-padded straight splint, at first exactly moulded to the deformity. Gradually, each day, the angle was to be changed, until the foot, from the position of *varus*, assumed that of *valgus*. It should be kept at this for a few days. While the process was going on, the movement of the foot at the ankle should be performed each day. If necessary, the tendo Achillis might be divided, and a splint with a screw used. By this means, the surgeon could, in twelve months, obtain a perfect cure, and thus avoid all unnecessary expense to the parents, or annoyance to the patient. The author exhibited a series of his splints for the cure of congenital club-foot in infants, and of other apparatus, for incompletely cured, relapsed, and neglected cases, employed from the time of Scarpa to the present day.

Midwifery and Gynæcology.

On the Management of the Lying-in Woman.

In an interesting paper on this subject read at the recent meeting of the British Medical Association (*British Med. Journal*, Aug. 21, 1875), Mr. THOMAS WHITESIDE HIME, of Sheffield, stated that the old and still established theory which represents the lying-in woman as being in a state similar to that of a person after a serious amputation, the uterus being compared to the part operated on, is unscientific and untenable. Parturition is a physiological process, the fulfilment of a natural function, and has no analogy with an operation which is an interference with function. Amputation, whether the result of disease or accident, involves consequences which have no analogue in the process of parturition. The uterus after labour is no more comparable to a stump after amputation than the uterus after or during menstruation. After natural labour (to which Dr. Hime's paper chiefly referred) there is nothing comparable to the collapse succeeding a major amputation; there is no fever, no suppression of secretions, no suppuration, or, if pus be present, it is not derived from the uterus at all, but from the vagina or external genitals, in the great majority of cases. The insignificant rise in temperature, from 0.5° C. in multiparæ, to 0.8° C. in primiparæ, is due to normal physiological and not to morbid action, being the effect of muscular exertion, increased activity of the lungs, liver, and other organs, when relieved from the pressure of the gravid uterus, and is only fleeting. Milk fever is far more talked of and written about than seen, and is of rare occurrence. The rise in temperature which accompanies the commencement of mammary activity is slight, temporary, and unaccompanied by mental depression or constitutional disturbance of any kind. Operations performed immediately after labour will yield kindly, of which Dr. Hime related several instances in his own practice. Regarding parturition as a normal physiological process, Dr. Hime urged the importance of a decided alteration in the common mode of treating lying-in women as *patients*, and confining them to bed for ten or twelve days on low diet; the ordinary puerperal dietary being such as would certainly not be given to any patient after amputation. He urged that water-gruel, barley-water, tea, and dry toast, should be abandoned for milk, eggs, good soup, chickens, and other digestible meat, to be given from the first, and of course in quantities suitable to the conditions of individuality, want of exercise, etc. Stimulants are decidedly injurious, except in special cases. It is often urged that, as a large amount of waste uterine tissue, etc., has to be got rid of, low diet should be adhered to; but milk has also to be secreted, and anyhow health and vigour will promote excretion, and the performance of all vital functions better than a state of debility. Opiates, ergot, and other drugs should only be given under necessity. The child should be applied as soon as the mother's state permits; if there be no milk at first, only for a minute or so to encourage its secretion, and the involution of the uterus. The binder is more of an enthanæsia than a benefit after the first twelve hours, but not so the early removal into a fresh bed, and room, if possible; and this may be done within forty-eight hours. The woman may sit up in bed for a short time from the first, a continual maintenance of the recumbent posture for ten or twelve days being as injurious as it is unnecessary, and most patients may be on the sofa on the fourth or fifth days. Above all things, the medical attendant should see that his directions are carried out, and not trust they will be so, especially as to the speedy removal of soiled linen, etc.; not that its presence, any more than the neighbourhood of privies, want of ventilation, etc., will *per se* develop metria any more than typhoid; otherwise, eight or nine-tenths of lying-in women must inevitably suffer from it, a result equally certain if medical men could convey the germs of disease with them as readily as is assumed. Cleanliness and ventilation always tend to preserve health and check disease, but they are no more needful for the lying-in woman than good nourishing food. After natural labour a woman is not in a diseased state, and the maintenance of health and vigour will be the most successful means of averting all risks.

Notes on a Case of Triplets, complicated by Double Uterus.

Dr. A. G. DUNCAN, of Crimond, reported to the British Medical Association (*British Med. Journ.*, Aug. 21, 1875) this very rare and interesting case, in which there was a depression in the abdomen indicating a division between two tumours formed of the two halves of the uterus, one containing two children, and the other one. The children, all females, were born alive; their united weight was twenty pounds. On subsequent examination the uterus was felt to be divided by a septum.

Extra-Uterine Peritoneal Pregnancy.

Prof. DEPAUL concludes a series of eight articles on the diagnosis and treatment of this condition.

Surgical interference, on account of the uncertainty of the diagnosis, can only be usefully resorted to on rare occasions before the fifth month, but after this the indications alter. It being possible that the fœtus may be developed to the full time, due consideration must be given to its interests as well as the mother's. At what period should we interfere surgically? It is scarcely prudent to wait until the end of the ninth month, but rather the end of the eighth month, when, the fœtus being able to sustain a separate existence, the interests of both mother and child will be best consulted. This applies to cases of extra-uterine peritoneal pregnancy only, not to tubal, where the risk of rupture of the cyst is much greater.

He cites nine cases, collected from various sources, in which gastrotomy was performed, seven of the infants having been extracted living, and four of the mothers having recovered.

In certain cases where the cyst is low in the pelvis, operation *per vaginam* is less dangerous than by abdominal section. After the death of the fœtus severe complications may arise, such as rupture of the cyst, fatal peritonitis, inflammation and suppuration in the cyst, with septicæmia as a consequence. Four illustrative clinical cases are given in detail.

Where the abscess tends to open by the abdominal wall, expulsion of the fœtus may be facilitated by means of incision or caustic, the latter being preferred where it is feared that adhesions have not taken place between the cyst and abdominal wall. If the abscess point *per vaginam*, an incision may equally be made to expedite the expulsion of the fœtus.

The cyst may also open into the large intestine or bladder. When the abscess bursts spontaneously, whether it be by the abdominal wall or by the vagina, the openings are often narrow and insufficient, the putrid matters stagnate, and the patient's state becomes anxious. Frequent injections into the cyst should be adopted, and if the bistoury be used, great care must be taken not to incise beyond the limits of adherence between the cyst and the neighbouring parts; death has often resulted from neglecting this precaution. Where the extraction of a living child is attempted, opening the sac by incision is generally requisite; whereas, when there is no immediate hurry, the fœtus being dead, and we are not certain about adhesions, the use of caustic in successive applications is safer, the gravity of the operation depending upon opening up the peritoneal cavity. Where the bistoury is employed, there is always danger of cutting down on to the site of the placenta; where caustics are used this danger is eliminated, and as it is generally impossible to extract the placenta or remove the cyst immediately, another serious risk is avoided, the placenta being allowed to come away spontaneously.—*London Med. Record*, August 16, from *Archives de Tocologie*, July, 1875.

Extra-uterine Gestation terminating by the Ovum becoming Encysted.

M. POLAILLON (*Annales de Gynécologie*, June, 1875) relates an instance where a multipara, aged thirty-seven, had peritonitis following her second lying-in. The menses ceased on April 20th, 1874. Incessant vomiting began

at the end of May. Emaciation ensued. At the beginning of October her state was alarming, there being severe pains in the abdomen, insomnia, fever, and emaciation. On the 17th October the patient was seized with nervous spasms and rigors, and severe abdominal pain. The fœtus died towards the end of the month, when about six months advanced. The breasts became swollen and painful. Phlegmasia dolens of both lower extremities supervened later on. On March 22d, when the patient left the hospital, a tumour the size of an orange, and hard, was situated anterior to the uterus, the two being intimately adherent. The menses had not recurred.—*Obstetrical Journal of Great Britain*, Aug. 1875.

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On Laceration of the Navel-String.

DR. WILLIAM PFANNKUCH writes on this subject (*Archiv f. Gynec.*, Bd. vii. Heft 1): In former times it was denied that a laceration of the navel-string could occur spontaneously during labour. In course of time, however, this had to be given up, as a number of observations were collected, in which it was proved that the navel-string was spontaneously torn through during the act of delivery. The question was then asked what force was required to do this. From experiments carried out with this object, it was clear that the laceration may be produced in two ways—either by general stretching or by recoil. The first can only rarely happen. Since the fundus of the uterus follows equally the advancing the child, the length of the navel-string, in spite of its frequent coilings, remains sufficient; then the elasticity of the tissues prevents laceration in too excessive stretching. The second more frequently occurs, and is of more practical importance. The cord has in this way been lacerated whilst the woman was lying quietly on her back, a powerful pain having expelled the child far from the genitals. This does not frequently happen, and the most common cause is the fall of the child through labour coming on when the woman is in an unusual position for labour, as when standing. As such labours more often occur in unmarried women, this subject becomes of importance forensically. Negrier, of Angers, and Späth, of Vienna, have made experiments in this direction by hanging heavy weights to the ends of fresh navel-strings. Negrier found that on an average 2000–3000 grammes were sufficient to lacerate the cord. Späth that eleven pounds were required. Casper says rightly of these experiments that they prove nothing, since the spontaneous laceration does not occur through general stretching, but through recoil. Here also the momentum of the falling child is not taken into account, nor the difference between the dead and the living navel-string. The author has now performed a series of experiments in the following way: The placenta was wrapped up in a piece of coarse linen and hung freely, the navel-string is passed through a hole in the middle of the cloth, and to its end a bag is attached to receive the weights. In the first series of experiments 12 mm., the distance fallen through, was equal to the whole length of the cord. In two cases 500 grammes were sufficient to tear through the cord. But, as in labour, the child can never fall through the whole length of the cord, a second series of experiments was performed, where the distance fallen through was half the length of the cord; here in six cases the cord was torn through by a weight of 700–1000 grammes; in the other cases the injury was so severe that a slight increase of the weight would have been sufficient to lacerate the cord. The anatomical structure of the cord explains how it is it affords so little resistance to a sudden laceration. The distribution of a force acting in the long direction of the cord is very limited, and the spiral arrangements of the component parts of the cord round an ideal axis renders impossible any transverse equalization. All the parts have, one after another, to sustain the full force of the lacerating weight; first the amniotic covering in the concavity is broken through, then usually the arteries follow, then the vein, and last of all the convexity of the cord. The more intensely and suddenly the force acts, the nearer the laceration usually is to the point of application of the weight.

The results of the experiments on “dead” cords, compared with the process observed in the living, show many differences; these variations are partly such

as favour the tearing of the cord by forcible labour, partly such as make it difficult or prevent it. To the first belong: 1. The considerably less capability of resistance of the living cord. 2. The greater weight of the falling body. 3. The momentum with which the fall of the child begins. Laceration may be rendered difficult (1) by the uncoiling of the cord; (2) by rubbing against the bones or clothing; (3) by the separation of the placenta. The author concludes by saying, that in all cases of labour in which the whole weight of the expelled child can act upon the cord, there is not only the greatest probability, but the almost certainty that it will be lacerated.—*Obstetrical Journal of Great Britain*, Aug. 1875.

Rupture of the Symphysis Pubis during Parturition.

Dr. EIDAM describes this case in the *Berliner Klinische Wochenschrift*, No. 28. The patient, a multipara, aged thirty, was admitted at 5 P.M. on April 10th, 1875, the membranes having ruptured. The pains were weak and far between. At 9 A.M. on the 11th, the right shoulder presenting, turning was accomplished, but delivery was not effected until 6 P.M. On examination some days later, as localized pain was complained of, a distinct rupture of the pubic symphysis was detected. A pelvic girdle was applied, and the patient progressed favourably. A month afterwards on examination the symphysis was found to be unusually thick, but quite firm. The patient was discharged convalescent.—*London Med. Record*, Aug. 16, 1875.

Syphilitic Placenta.

Dr. ANGUS MACDONALD, of Edinburgh, presented a paper on this subject at the late meeting of the British Medical Association (*Brit. Med. Journ.*, Aug. 21, 1875). Syphilitic disease of the placenta, he said, had of late attracted some attention on the continent, but had commanded little attention from the British profession. The paper embodied the result of a careful microscopical examination of two undoubted specimens of the disease. The chief difficulties that lay in the way of ascertaining the true nature of the disease were twofold: 1. It was liable to be mistaken for fatty degeneration of the placenta, and had been so mistaken by excellent observers, such as Kilian and Robin. 2. It was frequently almost impossible to arrive at a satisfactory proof of constitutional syphilis till the discovery by Wagner of Berlin of osteochondritis syphilitica. Microscopical and chemical examination of the placenta were sufficient to show that such cases were not fatty degeneration. It was easy, also, to prove in a fetus born dead, and even macerated, whether it was constitutionally syphilitic or not. If the fetus were syphilitic, there would be a band of tissue between the bone of the shaft and the cartilage of the epiphysis of the long bone, in a condition of inflammatory irritation. This band was bounded by very irregular outlines both towards the cartilage and towards the true bone, and consisted, according to the advancement of the disease, either, 1. Of cartilaginous cells hypertrophied and greatly increased by proliferation, as also prematurely infiltrated with earthy matter; or 2. Of the above, combined with premature sclerosis of the intercellular tissue, and premature osteogenic formation within the cartilage, and arrest of true bony transformation; or 3. The higher degrees of inflammation might come on, softening and interruption of the connection between bone and cartilage, and inflammatory exudation with even suppuration. The results of those changes might be seen both by the naked eye and the microscope, as the reddened or grayish-yellow band was quite visible to the naked eye, and the hardened prolongations of premature calcified cartilage were easily seen and felt. The change in the placenta was equally distinct, but varied, 1. According as the father was primarily affected by syphilis; 2. According as the mother was first affected; 3. According as both were syphilitic early in the pregnancy. If the father were primarily affected, the villi were the site of the disease in the first instance. They were the seat of a peculiar cellular hypertrophy and multiplication, named by Frankel "disfiguring

granulation-cell disease," and which consisted of an immense multiplication of the cellular contents of the villi and of the epithelial mantle of the villus, together with an increase of the thickness of the wall of the included vessel. This cellular multiplication and increase proceeded outwards from this vessel as a centre, and the rows of connective tissue nuclei were seen to be arranged in circles, reminding one of the appearance of an Haversian canal. In consequence of this cellular multiplication, the villi were enormously increased in size and weight, the vessels were ultimately completely obstructed, and by and by the hypertrophy was followed by atrophy and abortion of the villus. The unaffected portions of the placenta were liable to become congested; extravasations were likely to be hence formed, and the ultimate result was suffocation of the fœtus. If the mother were primarily affected, the disease attacked the maternal placenta, and consisted essentially of increased growth of the connective tissue framework of the placental decidua, and enormous hypertrophy of the large cells of the decidua, leading to obstruction of the villi by compression. The affection described by Virchow, Slavjansky, and Kleimwächter as endometritis, placentalis nummosa, was probably syphilitic disease of the maternal placenta. If both father and mother were primarily syphilitic, or became so in the early months of pregnancy, both conditions exist conjointly. In two placentas examined by Dr. MacDonald, the history proved syphilis of father and of mother; the bones showed well-developed osteochondritis syphilitica, and the placental tissue was affected by both forms of the syphilitic degeneration of tissue. From his researches, Dr. MacDonald drew the following conclusions: 1. A large number of intrauterine deaths from diseased placenta are due to the existence of constitutional syphilis in either or both parents, and the death is the result of the progressively increasing defective blood-supply, owing to the changes described above. 2. The changes taking place in the placenta give the organ a pale appearance, and increase its size; and, in consequence, the appearance it presents is liable to be mistaken for fatty degeneration. This mistake is easily prevented by microscopical and chemical examination of the diseased organ. 3. The bones of the dead fœtus will (as they will show osteochondritis syphilitica, if the constitutional disease be present), afford a valuable and infallible means of deciding whether the corresponding placenta is syphilitic or not. 4. Medicines thought to be beneficial by their action upon the blood, as oxygen given in such cases, most probably are useful, if they really do good, as blood-depurators, and may be beneficially replaced by iodide of potassium and other accredited antisyphilitic measures. 5. On the whole, there is little good to be expected from premature labour in such cases, as the child, though born alive, is saturated by the disease. We may expect better results by antisyphilitic measures acting through the mother on the placenta and the child at the same time.

Mr. LAWSON TAIT (Birmingham) thought the view of the paper an error, and referred to his own recent paper on the subject. The change occurred in the arteries, and was analogous to the changes in vessels of the kidney described by Dr. Johnson. It was a conservative change.

The Cephalotribe; its Inconveniences and its Dangers.

Dr. BOISSARIE (*Annales de Gynécologie*, June, 1875) directs attention to the frequent abuse in the employment of this instrument, contending that in a large number of the cases where it is resorted to the long forceps, properly applied, would accomplish delivery; and that in those cases where there is considerable contraction of the brim, the alternative of Cæsarean section would be attended by little increase of risk to the mother, and the child's life generally saved.—*Obstetrical Journal of Great Britain*, Aug. 1875.

Discussion on Puerperal Fever.

The *Obstetrical Journal of Great Britain and Ireland* (September, 1875) closes some remarks on the discussion on puerperal fever at the recent meetings of the Obstetrical Society of London with the following observations:—

"Every particle of evidence relating to it" [puerperal fever] "has been re-sifted and re-tested. The very term puerperal fever has had a struggle for its existence, and although the time does not yet seem to have arrived for its abolition, its right to exist is strongly denied by several. On many points there still remain much obscurity and difference of opinion. On others, again, there is a happy unanimity. All agree that the puerperal condition of a woman is one which renders her liable to be affected by influences which at another time might produce no serious mischief, and that physical and mental shock during this time may turn the balance and determine disease which might not otherwise occur. A large majority of the Fellows believe that puerperal fever is caused by septicæmia, autogenetic or communicated. The very soul and strength of the discussion rest in this thought. Here is the idea which cannot be too vividly impressed upon the minds of all obstetricians and midwives. Upon its entire acceptance and proper apprehension depends the safety of many mothers. An offensive post-partum vaginal discharge must not be permitted. It must be prevented by skillful management of the third stage of labour, by insuring efficient lochial drainage, and, if necessary, by washing out the utero-vaginal canal with antiseptic fluid. No one now doubts the communicability of the poison which exists in putrid lochia, or that the most minute quantity of it conveyed to a healthy puerperal woman may produce in her a fatal complaint. A responsibility of a most serious nature therefore attaches itself to all those who have in any capacity to deal with lying-in cases. A mystery hangs over the nature of this pyrogenetic fluid, but the laws which relate to its origin and mode of propagation are sufficiently well known to enable us to do much towards checking its generation, and preventing the extension of its malignant action when begotten. How, and in what proportion, cases of puerperal fever are produced by the zymotic diseases, and what influence bacteria may have, are questions which require and we hope will receive further careful consideration."

On the Employment of Chloral in Puerperal Convulsions.

Dr. PORTAL (*Bulletin Général de Thérapeutique*, August 15, 1875) mentions three cases in which chloral was employed with success. They were all the subject of albuminuria; the first was attacked six hours after parturition, the two others during labour. One was delivered naturally, during the attacks, of a still-born fœtus; the other was delivered of a living fœtus by the aid of the forceps, on account of the pains having disappeared when the attack had ceased.

The first had had twenty-four attacks, coming on regularly every quarter of an hour; the second eight attacks and the third seven. Ninety grains (six grammes) of chloral was administered in each case. In the two latter, twenty-five milligrammes of morphia were also injected.

All the patients recovered. In six previous cases treated by leeches and inhalation of chloroform, the author "had six deaths to deplore."—*London Med. Record*, Sept. 15, 1875.

Complete Atresia of the Female Genital Organs, or Unilateral Hæmatometra.

Dr. ALBERT PUECH (*Annales de Gynécologie*, August, 1875) concludes an interesting series of four articles on this subject in the present number.

He tabulates twenty-eight cases collected from various sources, where operation had been resorted to, and, excluding one where the result is not given, shows that no fewer than eight of these died, most of them from peritonitis.

He gives in detail the history of twelve cases which are of much clinical interest. After discussing the various modes of operating, he contends that the success is less intimately dependent upon the mode of operation than upon the condition of the patient at the time of operation. His conclusions are thus briefly summarized.

Complex atresia is spoken of when, the genital canal being double, one of the halves is imperforate in some part of its extent.

The obstruction was found eleven times at one of the uterine orifices, and twenty-three times in the vagina.

In twenty instances it was on the right, and eight times only on the left side.

In two cases the uterus was bilocular or partitioned; the others were instances of bicorned uterus in different degrees.

The catamenial secretion from the side of the uterus where the aperture was patent was more or less regular, sometimes even suspended for many months, but with some few exceptions moderate in quantity.

The phenomena of retention caused by the imperforation began sometimes before the first menstruation, sometimes coincidently, sometimes later. They consisted in pains at the menstrual period, generally coincident with the hemorrhage, in the loins and sacral region, internal pressure directed towards the vulva, and above all in the appearance of a tumour occupying one or other side of the hypogastrium and a great part of the pelvic cavity, interfering with locomotion, and producing dysuria and even retention of urine.

The tumour was elastic, more or less voluminous, painful on pressure, moderately resistant, sometimes even plainly fluctuating, limited above, inclining to the side, and losing itself below in the pelvis proper. A tumour at the vulvar outlet, or in the genital tract, was also discovered, depending upon the seat of obstruction.

When the obstruction was at the vaginal outlet, the vulva was half opened by a cervical tumour, violet coloured, evidently fluctuating; the cervix being pushed up, and often beyond the reach of the finger.

When the obstruction was in the middle or upper part of the vagina, the vulva was normal, as also the vagina below the seat of obstruction.

Where the obstacle existed at one of the uterine orifices the open os was flanked laterally by a spherical tumour, pushing the cervix to the opposite side.

Whatever was the seat of the obstruction, pressure upon the hypogastric tumour was transmitted to the finger *per vaginam*, and *vice versâ*. In proof of these different data, exploration by means of the sound inserted in the horn remaining patulous confirmed the diagnosis of a complex atresia, and prevented its being confounded with congestive dysmenorrhœa, ovarian cysts, periuterine hæmatocele, etc. In cases of doubt, an exploratory puncture clears up the diagnosis.

The modes of termination are identical with those of simple atresia; spontaneous rupture of the obstacle; perforation of the intermediate partition between the two horns; passage of blood from the horn into the Fallopian tube, and thence into the peritoneal cavity; peritonitis provoked by the repetition of the crisis.

Treatment allows two indications: 1. The evacuation of the retained blood; 2. The maintenance of the opening created.

On account of the considerable mortality (eight deaths in twenty-six cases), the operation requires great precautions. It should be effected seven or eight days after the cessation of menstruation, as soon as possible from the commencement of the accident.

Considering the tendency to recur, the obstacle should be opened largely, and not punctured. Contrary to the practice of many, we ought to abstain from all pressure upon the tumour, and from prolonged examinations, which predispose to peritonitis.—*London Med. Record*, Sept. 15, 1875.

Tetanus following Menorrhagia, with Purpura Hemorrhagica and Vaginal Diphtheria; Hypodermic Injection of Chloral; Cure.

Dr. RIBELL, in a communication to the Chirurgical Society of Paris (*Annales de Gynécologie*, June, 1875), relates an instance of this nature. The patient, aged thirty-six, had suffered from purpura hemorrhagica after each of her four

confinements. Nine weeks after her last one rigors set in, followed by contraction of the muscles of the neck, stiffness and difficulty in deglutition, with slight trismus. The symptoms increased rapidly, and left no doubt as to their nature. Fifteen-grain doses of chloral every half hour were given for three hours, when sleep supervened and lasted five hours. The symptoms returned when the patient awoke, and gradually increased in severity, pains in the back and suffocation being complained of. Thirty grains of chloral in solution were injected into the side of the neck, and repeated every hour for six times. Sleep then occurred, and lasted nine hours, the patient awakening free from all symptoms.

Fourteen grammes (210 grains) in all were injected.

The patient convalesced slowly. The diphtheritic condition of the vagina was treated with carbolic acid and liq. ferri perchlor.—*Obstetrical Journal of Great Britain*, Aug. 1875.

On Metrorrhagia arrested by the Application of Heat to the Lumbar Region.

Dr. NOEL DE MUSSY (*Annales de Gynécologie*, July, 1875) gives the history of two cases where hemorrhage was arrested by this method, after various other remedies had been tried in vain. The author regards the cases as interesting, and the method worthy of further investigation.—*London Med. Record*, September 15, 1875.

Performance of Ovariectomy twice in the same Patient.

MR. SPENCER WELLS relates (*Obstetrical Journal of Great Britain*, July, 1875) the case of a young woman aged 32, from whom he removed a multi-locular cyst of the right ovary, and applied a clamp upon a broad short pedicle. She recovered without an unfavourable symptom, although the wound was rather slow in healing, owing probably to the neighbourhood of the cicatrix left after the removal of the other ovary five years previously.

"The first operation was performed in May, 1870. An ovarian cyst of very rapid growth, and extensively adherent to the abdominal wall and to the omentum, was removed. A very short pedicle on the left side was tied in two portions with whipcord. The ends of the cord were cut off close to the knots, and returned with the pedicle. Several silk ligatures were tied to bleeding shreds of omentum and returned. Projecting from the right ovary was a cyst as large as an orange. This was laid open by an incision, emptied, and returned with the rest of the ovary, rather than remove it, as it appeared to be healthy. The solid part of the tumour removed weighed 3 lbs., and the fluid contents measured 8 pints. She suffered a good deal after the operation from pain and vomiting till the fifth day, the temperature rising to 101°·4, and pulse to 124; but she made a good recovery, and went to Ramsgate twenty-four days after the operation. She remained in good health for four years, earning her living as a dress-maker, and menstruating regularly until a year ago. Then the abdomen began to enlarge and menstruation became irregular, recurring at intervals of two or three weeks, and with much pain on the *left* side of the abdomen. Increase was not nearly so rapid as with the other cyst, but the abdomen was so large in May, that I removed the tumour on the 2d of June, as you saw. The incision was carried about half an inch to the right of the former cicatrix. On dividing the peritoneum, some omentum (which was adhering in some places to the cicatrix) protruded. On pushing this aside a free cyst was tapped, emptied, and drawn out. A short pedicle on the right side was secured in a middle-sized clamp, and kept out with some traction. Two vessels in the separated omentum were tied. At the right of the left ovary there was a small, hard substance, doubtless the whipcord which secured the pedicle at the first operation. I saw nothing of any of the silk ligatures which had been applied to the omentum. The cyst was nearly single, only weighing 9 ounces. It contained 8 pints of fluid. She recovered without any sickness, with much less pain than after the first operation; the temperature not rising over 100°·8, and the pulse being generally about 88, the highest 108.

"At the first operation I was doubtful if I should remove both ovaries, as the second contained a cyst. I preferred only to lay open the cyst for several reasons. She was then only 27 years old, and might marry. The rest of the ovary was healthy. I had seen other cases where patients had married and borne children, although I had punctured cysts in the remaining ovary, and where there had been no return of disease, and I did not wish to add to the risk of the single ovariectomy by removing the second ovary. If she recovered the ovary might remain healthy. If it became diseased it might be removed. Actually it did remain for four years without any sign of disease, and when it did enlarge it was removed. This is, I think, the safest course to pursue in similar cases. In my book on diseases of the ovaries, any of you who are interested in this subject may find a chapter on the removal of both ovaries at one operation: and another chapter on ovariectomy performed twice on the same patient. Of four cases in which I had performed the second operation at the time of publication in 1872, two recovered and two died. In one case the first operation had been performed by Mr. Baker Brown. So that of 500 cases of ovariectomy in my own practice, in only three had a second operation been called for. Since June, 1872, I have done more than 200 more first operations, bringing the number to 710, and I have only had one other case besides this one of second ovariectomy. That was a young lady, a patient of Mr. Bishop of Tunbridge, who also recovered quite as well as after the first operation. Thus the total number of cases of ovariectomy performed by me for the second time on the same patient amounts to six, with a result of four recoveries and two deaths."

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On Drainage of Douglas's Cul-de-sac in Ovariectomy.

At the session of the Physico-Medical Society of Erlangen, held May 10, 1875, Professor SCHROEDER made some statements on what he declared to be one of the most important questions in operative gynecology, viz., the drainage of Douglas's cul-de-sac in ovariectomy. He said that after Peaslee had first recommended draining off the exudation from the abdominal cavity as the most efficient mode of treatment in cases of peritonitis, Sims seized this idea, and came to the conclusion that Douglas's cul-de-sac had best be punctured and kept open in every ovariectomy, certainly in all in which a peritoneal exudation was to be expected on account of already existing peritoneal irritation or of extensive adhesions. The train of thought which Sims followed was, he said, essentially as follows: He assumes, and bases his assumption upon a series of fatal cases taken from Spencer Wells's operations, that the great majority of those dying after ovariectomy succumb to septicæmia, and that this is caused by an exudation which accumulates in the abdominal cavity, and undergoes decomposition into an ichorous fluid. Thus he arrives at the conclusion that the chief aim of a rational system of treatment must be to remove this exudation from the abdominal cavity, but that this can only be done easily and simply when the necessary precautions are taken during the operation. Very many in Germany have assented to these deductions, which Sims has advanced with the persuasive mastery of statement which is peculiar to him. Nussbaum especially adopts this idea with enthusiasm, and anticipates from it a new curative measure in ovariectomy, and Spiegelberg is also warmly in favour of it. I see, he says, in these views an essential danger for ovariectomy, and cannot recognize the correctness of Sims's deduction. For, agreeing as I do with Sims, that most of those operated on succumb to septicæmia, I still cannot concede that the reddish serous exudation plays the dreadful part that Sims ascribes to it; for daily experience teaches us that transudations and exudations in the abdominal cavity have in themselves no tendency to decomposition and the production of septic states. In fact, I have frequently satisfied myself that, even after ovariectomies, the exudation is not the bugbear that Sims considers it. I have three times operated under circumstances where an exudation into the abdominal cavity might certainly be expected, without the occurrence of the least trace of a septic process. In the first case I operated where an exudative peritonitis already existed. After the operation the

meteorism and vomiting persisted for a few days, but soon improved, and recovery ensued without any disturbance. In the other two cases, to be sure, death occurred, but only after twelve and fifteen days respectively, and from a complication, viz., tetanus, which was not in any degree dependent upon septic processes in the abdominal cavity. In the first of these cases the whole anterior surface of the tumour had contracted adhesions to the abdominal wall, so that the recognition of the peritoneum and the separation of the tumour from it presented great difficulties. From the extensive surfaces of cicatricial adhesion an exudation would necessarily take place. In spite of this, there was perfect healing of the abdominal wound; there was no trace of peritoneal irritation, and when death, occurring on the ninth day, furnished the opportunity for an autopsy, the abdominal cavity was found perfectly healthy, and there was no suspicion of a decomposing exudation. In the last case the adhesions were not so extensive as they were firm, and could only be separated with great difficulty. Here there existed a reddish, serous transudation in the abdominal cavity, which constantly reaccumulated even during the operation, and a part of which had to be left in the abdominal cavity. The patient had hardly the least sensitiveness, very little fever, and was perfectly well after eight days. She had a normal temperature and a strong appetite, in fact showed no septic phenomena at all, death also ensuing from tetanus as before, but on the fifteenth day. Small fibrinous flocculi were, it is true, found in the abdominal cavity upon the intestines, also in a few places small deposits of pus, which could easily be scraped off with the blade of the knife, and in the true pelvis there was a reddish, serous fluid. Notwithstanding, there were no septic phenomena, and she would undoubtedly have recovered had the calamitous tetanus not appeared as an intercurrent disease. Now, how does it happen that in one case an exudation undoubtedly present occasions no disturbances whatever, does not even perhaps furnish slight symptoms of peritonitis, while at another time, with a very slight operation, involving scarcely any injury of the peritoneum, there are associated the most violent symptoms of septic peritonitis? According to my conviction, this difference depends wholly upon whether infection has or has not taken place. In its absence the exudation is perfectly harmless, and is easily absorbed by the peritoneum without irritation; should it occur, however, the exudation becomes decomposed, or, where there was no exudation, a violent peritonitis sets in, which furnishes a rapidly decomposing exudation. If this view be correct, it is evident that our treatment must be directed not to the accumulating secretion, but to the prevention of the infection from which the whole trouble arises. Now, although, in spite of all our experiments on vibriones, we still do not know precisely in what the infective substance consists, I am, nevertheless, certain that it is conveyed from without, and that its conveyance is as a rule by the hands, the instruments, or other appliances of the operator and his assistants. If, therefore, we wish to ward off the infective substances, we must operate in healthy places, and must attend most carefully to the absolute cleanliness of our hands, linen, clothing, instruments, sponges, etc.; also, in order to disinfect as far as possible the air which forces its way into the abdomen, it is desirable to operate under the spray of carbolic acid, as is my custom in every case. If with such painstaking exactitude we guard against infection, the exudations do not decompose, and consequently give rise to no septic phenomena. Under these circumstances, then, drainage is unnecessary, and if unnecessary, ought to be omitted, as in any event it makes the operation more complicated, difficult, longer, and more dangerous. I should therefore decide upon drainage during the operation only in case I believed—a state of things which of course should not happen—that the patient had become infected, or in case decomposing masses, from some suppurating cyst *e. g.*, had found their way into the abdominal cavity. Drainage of the abdominal cavity assumes a very different position as a therapeutic measure against a septic peritonitis which already exists. For, although the exudation be neither the original cause nor the only symptom of the septic condition, it must still be conceded that its removal is highly desirable. It is true this is then difficult to accomplish. Douglas's cul-de-sac is easy to puncture only when an exudation is inclosed in it. Then only does a tumour form

behind the uterus, which is easy to get at. It is precisely in these cases, however, that its evacuation is not absolutely demanded, for the exudation being encapsulated is rendered harmless, and does not lead to absorption or perforation. If, however, there is a free exudation in the abdominal cavity, it does not bulge forward in Douglas's cul-de-sac. It is then difficult and dangerous to puncture for fear of injuring the neighbouring parts. The need of it is felt with especial frequency in puerperal peritonitis. But here the neck of the anteverted uterus lies so close to the rectum that we do not know where to make the puncture. In such cases we might think of removing the exudation by incision of the abdominal walls. The abdominal cavity, however, cannot be satisfactorily washed out through a simple incision in the abdominal walls. So the only efficient procedure, it seems to me, in such cases, is to perform laparotomy, and then to perforate and establish drainage through Douglas's cul-de-sac from within. Perhaps this will yet become the treatment for septic peritonitis, although it requires great confidence to undertake this operation in a woman suffering from general peritonitis. In conclusion, let me once more state my views precisely, that the exudation after ovariectomy is not in itself the cause of the septicæmia, but is, on the contrary, perfectly harmless, unless it decomposes; but that decomposition only occurs after infection, and that consequently the important point is not the removal of the exudation, but the avoidance of infection.—*Medical Record*, September 25, 1875.

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Crayons of Iodoform.

Dr. LEBLOND strongly recommends (*Annales de Gynecologie*) the crayons of iodoform introduced into therapeutics by M. Gallard, and which are used advantageously in superficial ulcerations of the neck of the uterus, extending into the uterine cavity. These crayons are introduced into that cavity and kept there by a tampon of cotton placed in contact with the neck of the uterus.

The best formula for these crayons is that of M. Godin, which is as follows: R.—Very finely powdered iodoform, gr. x; powdered gum arabic, centr. l; mucilage sufficient to make a pilular mass. Divide into ten equal cylinders four centimetres long, and dry in the air for 24 hours. These cylinders may be easily divided into any desired lengths.—*Le Progrès Méd.*, May 15, 1875.

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Influence of Chloroform upon the Fœtus in Utero.

Dr. ZWEIFEL (*Bull. Gén. de Thérap.*, July 30, 1875) states that he has found chloroform in the urine of a newly-born infant when the mother had inhaled the vapour during parturition. He also found chloroform in the placenta where the patient had been lightly chloroformed for a quarter of an hour. It seems to be demonstrated, then, that chloroform inhaled by the mother passes into the blood of the fœtus. This fact should influence practitioners in administering chloroform during parturition.—*Obstetrical Journal of Great Britain*, Sept. 1875.

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On the Absorption of Medicaments by Infants from the Mother's Milk.

Dr. LEWALD (*Lyon Medical*, June 20, 1875) records some interesting experiments of this nature upon animals. He concludes that we can administer a greater quantity of iron to the infant by means of the mother's milk than by any other method. Bismuth, oxide of zinc, lead, arsenic, antimony, iodine, and its compounds were all detected in the milk, in various quantities, and at varying intervals after its administration to the mother. Quinine and mercury also pass readily into this secretion. The author thinks it is not demonstrated that alcohol and the narcotics can be eliminated by the milk. [He can scarcely have observed the children in large towns, or noted the instances of narcotism in the infants by the administration of opiates to the mother.]—*London Med. Record*, Sept. 15, 1875.

Medical Jurisprudence and Toxicology.

Case of Chronic Lead Poisoning, the Result of using Flake-white as a Cosmetic.

Dr. GEORGE JOHNSON, Professor of Medicine in King's College, London, reports (*Medical Times and Gazette*, August 28, 1875) the following case:—

Elizabeth R., aged twenty-two, married, was admitted into Twining ward on June 25, with well-marked symptoms of poisoning by lead. She states that four months ago her hands and arms began to be weak and unsteady in their movements. She found it difficult to write, and, in consequence of weakness of her legs, she could not walk so well as usual. She lost flesh. After a time she had pains in the abdomen, and constipation, and she had a coppery taste in the mouth when she first awoke in the morning. The weakness of the hands and arms continued to increase, and she noticed that the muscles of the thumbs and forearms were wasting. A few days before her admission the weakness of the hands and arms suddenly increased, so that she had very little power to grasp an object, and she was unable to extend the fingers.

On admission she is found very anæmic. The muscles of the forearms and of the thumbs are much wasted, the wasting being greater in the right arm and hand than in the left. There is complete wrist-drop on the right side, incomplete on the left. She is unable to extend the fingers of either hand. She can flex the forearms on the upper, and raise both arms above her head. There is some weakness and flabbiness of the muscles of the legs. There is a blue line at the edge of the gums.

Here was an unquestionable case of chronic poisoning by lead. Then the question arose, What was the source of the poison? She has worked as a milliner, her chief occupation being that of trimming hats. It did not seem probable that in doing this work she could have been exposed to the poison of lead. Then it came out that she, being the wife of a scene-shifter at Drury-lane Theatre, also acts as a ballet-dancer, going on the stage four or five nights a week; and as a preparation for this she has been in the habit of powdering her face with flake-white. This flake-white is mainly composed of carbonate of lead. My son analyzed a portion of the powder which the patient had been accustomed to use, and he found it to consist of carbonate of lead, with a minute quantity of chalk. The symptoms present in this unfortunate woman are thus completely explained. When powdered white lead is applied to the skin of the face, it is partly absorbed through the skin, while some is inhaled through the nostrils, and thus it enters the circulation and pervades the whole system.

Our patient tells us that a friend of hers, who is also a ballet-dancer, is suffering from the same symptoms as herself. There is nothing new in this: symptoms of chronic poisoning by lead have often been traced to the use of powdered white lead as a cosmetic, and also to the habitual employment of hair-dyes containing lead. It would be well that all persons employing cosmetic powders should be informed that flake-white contains a poisonous compound of lead.

The sources of poisoning by lead are very numerous, and sometimes difficult to trace. Some time since I had under my care in the hospital a portmanteau-maker, who had repeatedly suffered from symptoms of chronic lead-poisoning. Our search for the poison was for some time unsuccessful, but at length it came out that he was in the habit of working much with a material called "American overland cloth." He procured some of this for our inspection. It consists of canvas covered rather thickly with a white coating, the surface of which is glazed and coloured black. This white coating was found by the late Professor Miller to be a mixture of chalk and carbonate of lead. When the cloth was cut, the white coating formed a cloud of dust. This man worked with this material in his own living and sleeping-room, sometimes, as he admitted, eating his meals without washing the dust from his hands. In addition, he was in the habit of using the fragments of cloth as fuel for melting his glue, as a result of which some of the lead probably became volatilized, and entered the system through the lungs. Having thus traced the poison to its source, we were able to instruct the man how in future to avoid it.

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Anatomy and Physiology.

On the Distribution of the Fibres of the Optic Nerve in the Human Retina.

A concise account of the operations of Professor MICHEL on this subject will be found in Zehender's *Klinische Monatsblätter*, April, 1875. According to these investigations, the nerve-fibres in the optic papilla on the nasal side are superimposed one over the other in large broad bundles, while on the temporal side the bundles are comparatively small and contain but few fibres, and, as they approach the macula lutea, there are distinct intervals between them: in this situation, too, the bundles are straight, while in all others they are more or less arched. In the immediate neighbourhood of the papilla the nerve-bundles lie one over the other, an arrangement which is not met with in any other situation with one exception. Between the papilla and the macula lutea the intervals between the nerve-bundles are narrow and slit-like, and the bundles anastomose with each other at a very acute angle. The fibres which pass directly to the macula appear to lose themselves in the ganglion-cell layer, while those further removed encircle the macula and anastomose very closely and completely with each other. In the region between but immediately above the macula and the papilla the nerve-bundles are also slightly superimposed, and cross over each other, forming the exceptional instance above referred to. The entire arrangement of the optic fibres is that of a plexus, the bundles becoming smaller and flatter as they radiate towards the peripheral portions of the plexus, and the intervening spaces, which are at first very narrow and slit-like, become ultimately wider and broader. At the ora serrata, the nerve-bundles terminate for the most part by free extremities.

Within the papilla the bloodvessels run parallel with the nerve-bundles, but it sometimes happens that the fibres which pass straight to the macula lie immediately over a large branch of the central artery. Elsewhere, as a general rule, the arteries appear to be partially embedded in the nerve-bundles, and are distributed in the same direction with them.—*London Med. Record*, Sept. 15, 1875.

A Case of Apparent Hermaphroditism.

Dr. SCHNEBERG, of Berlin, relates in the *Berliner Klinische Wochenschrift*, July 5, 1875, a case of extreme hypospadias.

The subject was first seen when sixteen years old, for a supposed rupture, consequent on a strain. On examination, a round movable body, of the size of a hazel-nut, somewhat tender, was felt in the right labium; it was recognized as a testicle, and the supposed labia as a divided scrotum. The clitoris (penis) was about five or six centimètres (2 to 2.4 inches) long, with a well-formed glans, but no opening. Some distance down and below the penis, the urethral orifice was discovered; still further back was a shallow depression, not dissimilar to the vaginal orifice, and about five centimètres deep. It was surrounded by a ring, and partly closed by a sort of hymen. No internal genital organs could be made out. The person had been regarded as a girl by the parents. In general conformation of figure, the individual resembled a man

rather than a woman. The breasts were not developed; the pelvis was small; the voice was harsh, and the larynx prominent. The parents were incredulous when informed of the real state of things. Four years afterwards, the mother again brought the patient for examination, the male characteristics having become more developed; the beard was beginning to grow. After examination by another medical man, the civil state was finally decided upon.

The person afterwards stated that he had experienced sexual excitement, with a fluid discharge, when in contact with women.—*London Med. Record*, Sept. 5, 1875.

Complete Transposition of the Viscera.

Dr. SCHULE, of Dantzig, reports (*Berliner Klinische Wochenschrift*, July 12 and 19, 1875, quoted in *London Med. Record*, Sept. 15, 1875) two cases of this rare anomaly, with references to the previously recorded cases.

On the Migrations and Metamorphoses of the White Corpuscles of the Blood.

CH. ROUGET's new investigations on the circulation of the larvæ of frogs have shown (*Archiv. de Physiologie Norm. et Pathol.*, 1874, 812, and *Centralblatt*, No. 21, 1875) that the red corpuscles in their diapedesis through the walls of the vessels remain perfectly passive. The intravascular pressure causes one corpuscle after another to pass through the cell-protoplasm and the structureless cuticula of which the walls of the young capillaries consist. In that the red corpuscles are incapable of self-movement, they cannot again regain their normal forms, which they have lost by being passed through the capillary walls. They therefore soon degenerate in their foreign surroundings outside the bloodvessels. The white blood-corpuscles arise from the fixed connective-tissue corpuscles, and are returned to the blood by the lymph. In virtue of their amœboid movements they are able, independently of the blood-pressure, to pass through the vascular wall. As soon as they meet a red blood-corpuscle outside the vessel, they surround it with their processes. In the interior of the white corpuscle the red one is dissolved, it falls into pigment-granules, and thereby transforms the colourless corpuscle into a pigment-cell. The latter, just like the original leucocytes, are capable of amœboid movements; they pass partly into the vessels, and their further fate is unknown; and partly they form pigmented tunicae adventitiæ of the vessels and nerves, together with the chromatogene layer of the subcutaneous tissue. The star-like subepidermal pigment-cells arise originally from white blood-corpuscles. On the application of mechanical stimuli, the pigment-cells which arise from the white corpuscles collect around the scar and form neoplasms whose structure is similar to the fungous granulations of the wounds of mamalia.—*London Med. Record*, Sept. 15, 1875.

Materia Medica and Therapeutics.

On the Action of Salicylic Acid.

Dr. WINTER, in a recent number of Schmidt's *Jahrbücher* (June 17, 1875), in recording the different results obtained by the use of salicylic acid, remarks, in the first place, that this acid may completely replace carbolic acid as a disinfectant in recent and chronic ulcers when applied on the bandages. In several cases of recent superficial gangrenous sores, Dr. WAGNER applied a thin layer of powdered salicylic acid on the surface, and placed over it some wadding. Sometimes the secretions of the sore passed through the bandage,

which, however, was inodorous, and then another layer of wadding sprinkled with salicylic acid was laid over it. For the most part the bandage might be removed in a week, and the healing of the sore was accomplished; and Dr. Wagner, without denying the efficacy of the wadded bandage, attributes a great part of the successful result to the disinfecting properties of the salicylic acid. In atonic ulcers of the foot, an obvious acceleration of the granulating process was effected by a salve of salicylic acid and lard. Dr. Wagner has also employed this agent successfully in the form of gargle in ulcers of the gums, stomatitis, etc., and the foul smell from the mouth has been at the same time corrected. The same authority recommends the use of salicylic acid in all maladies which take their origin from minute organisms. In diphtheria the acid seems to display great efficacy and to shorten the duration of the disease very materially, and it may be given internally and also used as a gargle. Dr. Karl Fontheim has likewise employed salicylic acid successfully in diphtheria, using the remedy both internally and as a gargle.—*British and Foreign Med.-Chir. Rev.*, Oct. 1875.

On the Phenate and Salicylate of Quinia.

Considerations of a purely theoretical order led M. MAURY (*Lyon Médical*, July 18 and 25, 1875) to think that a compound of phenol (carbolic acid) with quinia might be found to exhibit the specific virtues of the alkaloid in conjunction with the antiseptic properties of the acid. A phenate of quinia had already been prepared by Ramel in 1871, by acting on sulphate of quinia with potassium phenate. For this double decomposition, Maury substitutes direct combination. He adds pure phenol to an alcoholic solution of freshly precipitated quinia; the phenate crystallizes out in twenty-four hours. The salt thus prepared is in needle-shaped crystals, soluble in alcohol, insoluble in water, but nevertheless very deliquescent. Its taste is bitter and somewhat caustic, and its unstable character unfits it for internal use. Maury found himself constrained to admit that the result of his exertions was not likely to prove of much practical value. It next occurred to him that the supposed advantages of the phenate of quinia, without any of its obvious disadvantages, might be obtained by substituting salicylic acid for phenol. Salicylic acid is known to possess all the antiseptic properties of the latter substance; but it is free from disagreeable odour and has no corrosive action. It may be made to combine with quinia either directly or by double decomposition; sulphate of quinia and salicylate of soda yielding salicylate of quinia and sulphate of soda. The salt crystallizes in prismatic needles, and is not deliquescent. It contains 70.1 per cent. of the alkaloid, and 29.9 of the acid. It is soluble in alcohol, both hot and cold, but insoluble in water. Acids decompose it, throwing down a precipitate of salicylic acid. It is bitter to the taste, but not at all caustic; three grains, taken internally, caused no disagreeable symptoms; the urine had the characteristic odour of meadow-sweet, and gave a violet colour with ferric salts; the presence of the alkaloid could not be detected in it. Experiments with yeast showed that the salicylate had a marked power of checking and arresting fermentation; but it is not easy to determine how much of this property belongs to the acid and how much to the base. It still remains to be seen whether the new compound possesses any clinical superiority over the salts of quinia usually employed in medicine.—*London Med. Record*, Sept. 15, 1875.

Cucurbitaceous Anthelmintics.

Some investigations have recently been made by M. HECKEL into the active part of pumpkin seeds. These seeds have been much used of late for the expulsion of the tapeworm, for which purpose they were employed in the early part of the last century. The mode of their administration has hitherto been to give the bruised seeds in large quantities suspended in water, the outer envelope only having been removed. About two ounces of the seed was the

ordinary dose. It is probable that so large a quantity contains much inert matter. Some recent observations apparently indicate that the active principle is contained only in the embryo. To ascertain whether this is the case was the chief object of M. Heckel's observations. He first administered, in two cases of tænia, about six ounces of the perisperm, tegumentum and testa, a purgative of castor oil having first been administered. The tapeworm was not expelled in any case. In two other cases the membrane surrounding the embryo was given—about half an ounce—preceded and followed by a dose of castor oil. In each case the tapeworm was expelled entire. Subsequent experiments yielded the same result. This membrane was then carefully examined, and found to consist of two membranes separable by maceration in water. The outer membrane contained a resin in small quantities (one in seventeen), which M. Heckel believes to be the active agent. He believes that the castor oil acts not only by its purgative effect, but by dissolving the resin and rendering it active. The second membrane contained more chlorophyl than resin. It must not be forgotten that these seeds contain a fixed oil, to which their qualities have been ascribed, and which may be obtained by cold expression from the seeds in the proportion of half an ounce to a pound. This oil has been used with success, in repeated half-ounce doses, in cases of tænia.—*Lancet*, Sept. 25, 1875.

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The Actual Caution ; its Uses and Powers.

DR. C. E. BROWN-SÉQUARD read a paper on this subject before the Suffolk District Medical Society (*Boston Medical and Surgical Journ.*, Sept. 30, 1875). He said that the importance of the actual cautery as a curative agent had never been fully appreciated, and suggested that its employment had been greatly restricted by the very natural objections of the patients. In the last century this treatment was vehemently decried, owing to the suffering inflicted, the theory being that the more intense the pain the greater was the effect. It is a fallacy, however, that the influence of counter-irritation is transmitted by the nerves of feeling. Apparently insignificant irritation, devoid of pain, may produce powerful reflex explosions; for instance, worms in the bowels may cause convulsions, epilepsy, paralysis, or even insanity. Certain nerves exist, by the irritation of which changes of nutrition may be induced. In guinea-pigs an epileptic attack may be brought on by simply tickling the neck. The human species may be as susceptible as animals. Dr. Brown-Séquard had once ventured to excite epileptic attacks in two male patients, and by that means was led to a mode of treatment by which they were cured; the irritation was not even felt in either instance.

The extent to which the actual cautery may be employed is greatly increased when we realize that the effect is not proportionate to the intensity of the pain, but often the reverse. He had discovered this fact in the years 1848 and 1849, after experimenting in M. Rayer's wards at the Charité Hospital, in Paris, on the different modes of applying the heated iron. He ascertained that the application of an intensely hot metallic cautery, in such a way as to cause very little pain, was of much more service than any painful counter-irritation, the only novelty in the operation being the almost entire freedom from suffering.

Jobert de Lamballe and Valleix have gone too far in extolling the use of the cautery, when they state that they have never known the actual cautery to fail in neuralgia; they surely must have lost sight of many patients. Dr. Brown-Séquard said he had had many bad cases of neuralgia to treat, both recent and chronic, and, though they were not all on record, he was sure that the results would show seven or eight cures in every ten cases.

He had, by means of the cautery, obtained great relief in every case, and often a complete arrest of the intense pain in the chest that accompanies pericarditis, although in no instance had the effect been permanent. One patient was relieved for a whole year after the application of the iron; the pain then recurred, but was again exorcised by the same treatment, and has not been felt since.

In sclerosis of the posterior columns of the cord—locomotor ataxy—he had invariably seen a cessation, or at least a diminution, of the attacks of pain from the employment of the cautery. *loco dolenti*, even when the pain had been of the most intense, lancinating character.

The actual cautery is of great use for that variety of pain in the head which is not of inflammatory nature, but is probably due to congestion of the membranes, especially of the dura mater; the pain is described as a bursting sensation, a mental torpor and dulness, a burning, or at times a cutting, and is common in this country. The places at which the iron should be applied are between the shoulder-blades, or on the top of the head. The effect is a contraction of the bloodvessels by reflex action. In three cases in which this method was employed, the eye was watched, and it was found that the pupil behaved as it does when the cervical sympathetic nerve is galvanized, that is to say, the pupil is invariably dilated. But no change was detected in the temperature of the face and ear with an ordinary thermometer.

In cases of sunstroke, Dr. Brown-Séquard had found the hot irons very serviceable.

Charcot has shown that in Pott's disease the actual cautery is more efficient than any other treatment; he has made several autopsies in cases of patients who were cured of paraplegia by the cautery; in one of these he found the cord reduced to one-tenth of its normal calibre, yet sensation and voluntary movement had been almost entirely restored; the deaths had ensued from some intercurrent affection. Dr. Brown-Séquard's practice confirmed Charcot's estimate of the value of this treatment in Pott's disease.

The use of the cautery in inflammatory disease of the joints is known to be most beneficial.

The cures claimed to have been effected in general paralysis of the insane have been called in question, yet he firmly believed in the possibility of a cure, provided the morbid alterations, not only of the brain proper, but of the medulla oblongata and of the spinal cord, had not advanced too far. Disease does not necessarily arrest the functions of the brain; far from this, destruction of a considerable portion of one or both hemispheres may take place with very little if any disturbance of functions. In a number of cases of the so-called general paralysis of the insane the most satisfactory results had been obtained from the heated iron, and in two instances—one being that of a physician of New York—cures were effected that promise to be permanent.

There is a morbid state in which the power of the actual cautery is especially great: it is coma. In several cases of apoplectic coma, in some of which the life of the patient was recognized by the stertorous breathing to be in imminent peril, Dr. Brown-Séquard had succeeded in restoring mental activity and re-establishing a normal respiration by applying the heated iron to the head. Some of these patients were manifestly saved from impending death. One of them died two years after having been so saved, and several survived many months.

In chorea the actual cautery may be very useful. He had effected a permanent cure by this method within a week, in one case which had resisted all ordinary means of treatment.

The cautery is very powerful in epilepsy, especially when the disease is due to a blow upon the head, or is caused by congestion or inflammation of the membranes of the brain. Dr. Brown-Séquard took the opportunity to say that those cases of epilepsy that depended upon organic lesions of the cerebral meninges, or of the brain itself, were by far more amenable to this or some other means of treatment than the cases in which no organic lesion of any part of the nervous system existed.

In summing up the cases of organic or functional disease in which the actual cautery is of service, Dr. Brown-Séquard mentioned pain in any region, but especially neuralgia; congestion or inflammation in the brain, the spinal cord, the lungs, the heart, and other viscera; serous effusion into the joints, the pericardium, and the pleura; paralysis agitans; neuroses, especially epilepsy.

The rule to be followed in determining the place of application is to choose that part of the skin which is nearest to the pain. In locomotor ataxy the sensation is referred to the periphery, consequently apply the iron there. This rule is not absolute, as has been seen in the remarks about congestion of the head. In locomotor ataxy apply the iron to the lower limbs, at the spot where the pain is felt, or over muscles attacked with cramp. In cases, however, of myelitis or of spinal meningitis associated with congestion or inflammation of the fibrous tissue uniting the vertebrae, the best place of application is over the tender spots of the spine. Graves pointed out many years ago the importance of making counter-irritation on the lower limbs in paraplegia. In Pott's disease, on the contrary, the application should be made close to the vertebrae.

No special instrument need be used; if the poker is resorted to it should not be applied over a large surface or pressed hard, if it is desired to avoid giving pain. Lines and occasionally points should be made rapidly. The outer layers of the skin are dried up, and fall off after a few days. No sore or scar remains, so that there is no danger of disfiguring the face, or any other part. The most convenient instrument is one consisting of a steel or platinum bulb about the shape of an olive but much smaller. To act safely in a cavity like the mouth, or on a restricted part of the skin, a very small steel bar or shaft may be used, which, when heated, is pushed inside a protecting bulb. Before allowing time for the latter to become heated, it is applied to the part of the skin or mucous membrane which is to be burned, and the heated shaft pushed down upon the part and immediately withdrawn. This contrivance is so safe that it can be used inside the mouth, about the ear, or on the eyelids in neuralgia.

The minimum of pain is obtained with white heat, because the outer layer of the integument is destroyed immediately, and radiation does not take place beyond it, the dried-up cutaneous tissue serving as a screen.

As regards the frequency of the application, it necessarily varies greatly. In cases of neuralgia five or six lines are to be made three or four times, at intervals of two or three days. A single application is usually sufficient to allay the pain of locomotor ataxy. This treatment must be repeated many times for inflammations or serous effusions, especially when chronic. In neuritis the method may have to be persisted in for years.

Medicine.

Hydrophobia treated by Chloral.

Dr. V. GRAZI records (*Dorpat Medicin-Zeitung*, Bd. v. p. 230) a case of hydrophobia under his care in the Hospital of Santa Maria Nuova, Florence, in which large doses of chloral were given ineffectually. The patient was a woman, æt. 52, and was bitten on the nose by a dog of her own. Her husband, a child, and a servant of the hospital were subsequently bitten in the hand by the same dog, but it is not noted that any of these suffered. The period of incubation was fifty days, during which the woman appeared in perfect health. Her admission took place on the 27th of November. On the 25th her appetite failed, and she felt constriction of the œsophagus in drinking water, and an aversion to drink. The following morning she ate a good breakfast, but drank nothing; at dinner-time she could not eat, and painful constriction occurred on an attempt to drink. When admitted her mind was perfectly clear, and she gave a precise account of her accident and symptoms.

Immediately after her admission at noon a gramme (15 grains) of chloral was administered. A consultation was held, and it was resolved to give chloral in large doses. Accordingly three grammes were at once prescribed,

and small pieces of ice ordered to be frequently swallowed. In the course of the 28th she took four grammes. On the 29th, in the morning, three grammes were given by clyster and four by the mouth; in the evening of the same day the like doses were repeated in the same fashion. The same plan was pursued on the following day, when the œsophageal pain disappeared, and she became tranquil in mind; but on the 1st of December the pharyngeal constriction had increased, although the drug had been persevered with. The pulse was weak, irregular, and 120, respiration very frequent: the chloral was reduced to four grammes. The day was passed tranquilly, but the signs of sinking continued, accompanied by some slight involuntary muscular contractions, and at eleven at night, after speaking to a nurse, she suddenly expired.

The body was examined thirty-five hours after death. The cadaveric rigidity was very great, particularly in the upper limbs and face. On opening the cranium the meninges were found much injected with black blood. A clot of blood existed under the arachnoid over the pons Varolii, and to this is ascribed the sudden death. The spinal meninges were somewhat injected, especially the pia mater. The cord and the spinal nerves exhibited no change in colour or consistence. The vessels generally were filled—the veins the more so—with intensely dark blood, diffuent, and nowhere coagulated, and not changed in colour by exposure to the air. Nothing abnormal was found under the tongue. The pharynx was lined by a false membrane extending downwards to the œsophagus, attributable to the large doses of chloral swallowed, which, though inclosed in a crumb of bread, escaped more or less by reason of the difficulty of deglutition, and came into direct contact with the mucous membrane. The lining membrane of the larynx preserved its normal colour as low down as the ventricles, but below this point was congested; the vascular injection being more intense towards the bifurcation into the two primary bronchi, where a tenacious mucus covered the congested surface. The lungs were gorged, particularly behind and below. The heart was hard and contracted, its tissue of normal colour; little blood existed in its cavities. The liver, excepting being gorged with blood, appeared healthy. The gall-bladder contained some bile of ordinary character. The spleen was hard and small. The kidneys were slightly enlarged, hard, and hyperæmic. The stomach was contracted, and devoid of alimentary matters; its membrane had at some points a rosy hue, and was besmeared by abundant mucus. The intestines contained very little fecal matter; the mucous membrane showed some rosy patches, but no structural alterations were visible.

Dr. Grazi observes that he has narrated this case, not because of any special features presented, but to induce others to give chloral in large doses, because of the relief thereby afforded to the terribly painful symptoms of the malady. For several days together he administered, in the course of twenty-four hours, as much as fourteen grammes of that drug, without misgivings, and much to the relief of the sufferer, who swallowed it willingly, notwithstanding the pain accompanying the act; and he considers the convulsions, the painful muscular contractions, the constriction of the gullet, the mental disturbance and delirium, the propensity to injure others, and all the other symptoms of this most terrible disease, were greatly lessened in intensity. As to the pathology of the malady Dr. Grazi has no opinion to offer.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

On the Successful Use of Jaborandi in Diabetes Insipidus.

Dr. LAYCOCK, of Edinburgh (*Lancet*, Aug. 14, 1875), points out that both forms of diabetes, as well as certain kinds of Bright's disease, are really *neuroses*, having their seat in that part of the encephalon which regulates the amount of water in the blood, and has therefore both anatomical and functional relations with the sudoriparous glands and the kidneys, and with the appetite for water and the sense for thirst. He now relates two cases of diabetes insipidus or polydipsia in which jaborandi was given with good effect. In the first case the quantity of urine passed was very great, amounting to 400 and 500 ounces per diem, and the patient was compelled sometimes to mic-

turate every half hour. The urine was pale, almost colourless, faintly acid, of sp. gr. 1005, with no sugar or albumen, and a very small amount of the ordinary solids. He was under observation and treatment from December 24, 1874, to February 26, 1875, when there was still great thirst and the skin was dry, and the daily amount of urine voided was 300 ounces. Jaborandi was now ordered in the form of an infusion (one drachm of the leaves and twigs to six ounces of water), and a dessert-spoonful was taken every four hours, this dose being increased and given at shorter intervals on succeeding days. On March 5, or about a week after the jaborandi was given, the skin of the back, abdomen, and inner aspect of the thighs was found to be perspiring pretty freely, and on the 6th the skin of the arms and left palm perspired. On the 15th the quantity of urine had declined steadily from 300 ounces to 236; and on the 31st, the jaborandi treatment having been still continued, the quantity fell to 180 ounces. The urine continued to diminish in amount till the middle of May, when it amounted to 120 ounces a day, and the patient was then discharged at his own request. In the second case the daily quantity of urine passed was 128 ounces, the sp. gr. being 1008, of acid reaction, and containing some albumen, but no sugar. There was great thirst, and in order to quench it the patient was obliged to drink a large quantity of water at a time. This patient was placed at once on the jaborandi treatment, one table-spoonful of the decoction being given thrice daily. The quantity of urine passed and of fluid drunk in twenty-four hours was carefully noted, and the results were that the amount of urine fell in about two months to ninety-eight ounces, and that of fluid drunk fell to 100 ounces, the amount at first being 186 ounces.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

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On the Use of Tepid Baths in the Febrile Disorders of Infants.

Dr. MEYER, in the *Deutsches Archiv für Klinische Medicin*, March 8, 1875, gives the results of some experience in the application of this treatment to infants under a year old. In two cases of decided pneumonia in children of seven and eight months old, he gave baths at 84° and 80° Fahr. In febrile affections with digestive disturbances he gave to infants under two months old baths varying from 93° to 79° Fahr.

A case related by Dr. Lutz, concerning an infant twenty-eight days old who was attacked by ambulatory erysipelas, deserves careful consideration, for it is certain that in this instance the cure was due to cold baths. The author adds that he has seen a child of three weeks old submitted to the same treatment recover from a very serious attack of ambulatory erysipelas. On the second day the day temperature was 104.36°, the night 105.6°; a bath of 89.6° was given. After the bath the temperature gradually diminished, and the child recovered after the appearance of a subcutaneous phlegmonous abscess.

Erysipelas erraticum belongs to those morbid forms which are successfully treated by baths. The temperature of the bath should be low in proportion to the infancy of the patient.

This treatment is also of the greatest utility in the gastro-intestinal febrile catarrh, which often appertains to infectious diseases, and, in Dr. Meyer's opinion, arises in infants from typhic virus or some analogous poison. Thus he saw an infant three months old, whose brother, fourteen months old, had been successfully treated for acute typhoid fever by cold baths and quinine, and while there was another case of the same disease in the same house, suddenly attacked in the night with gastro-enteritis, and the next day show a central temperature of 107.6°. Dr. Meyer was only called in a short time before death, and could do nothing for the child, whose case he quotes only to show the relationship between typhus and what is supposed to be idiopathic gastro-enteritis.

As collapse is rapid in children, and the cooling of the extremities very quick, no notice is taken of the elevation of the temperature when the thermometer is not used. These very rapid gastro-enterites are essentially different from those which are connected with digestive disturbances, and to which a

good hygienic treatment suffices to render the prognosis favourable. Rilliet and Barthez have demonstrated that the intestinal lesions of infantile dothi-enterites are much less marked than they are in the adult. On the other hand, vomitings in infantile typhoid fever are very frequent, and thus much of infantile gastro-intestinal catarrh may depend on typhic infection, in the same way as Liebermann and Hagenbach admit to be the case in the febrile catarrh of adults. However, Dr. Meyer reproaches himself with not having, up to the present time, endeavoured to ascertain if in these circumstances the spleen was enlarged. He quotes a case in which treatment by cold baths was employed. Collapse, imminent death, vomitings, and diarrhœa, were present. The rectal temperature was 104.9° . A bath, with an initial temperature of 95° , gradually lowered to 86° , was given for eight minutes. The child was quieter after the first bath. Directions were given to take the rectal temperature every three hours, and to give a fresh bath so soon as it exceeded 103.1° . It only reached that height once after the second day. After the first bath the moanings ceased, and the child, who until that time had refused all food, began to take it, and finally recovered. In a similar case there were convulsions, after which the rectal temperature rose to 104.5° . The bath was cooled from 93.2° to 80.6° , and then repeated; the first day the temperature keeping itself above 103.1° . The next day the temperature was normal, and recovery ensued. These cases encourage Dr. Meyer to employ baths so soon as the temperature exceeds 103.1° , in dothi-enteritis, pneumonia, scarlatina, erysipelas, in fact, in all diseases showing a high temperature. The number of cases will certainly increase if, whilst combating the gastro-intestinal symptoms, means can be taken to lower the fever. How young soever the children may be, the cold baths may be used; but, unless there be precise indication to the contrary, the temperature of the bath should not fall below 84° .—*London Medical Record*, Sept. 15, 1875.

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Treatment of Acute Rheumatism by Tincture of the Perchloride of Iron.

Dr. J. RUSSELL REYNOLDS, Professor of Medicine in University College, London, presented to the British Medical Association (*Brit. Med. Journ.*, Oct. 2, 1875) at its late meeting an interesting paper on this subject. He began by referring to a paper on the same subject which he presented to the Association in 1869, and then said "The facts which I then recorded were such as to induce me to continue the mode of treatment which I then described, and I wish now to lay before you some further results of that mode of dealing with the disease in question.

"You will allow me to remind you that the possibility of relieving acute rheumatism by the tincture of perchloride of iron was suggested to my mind by observing the rapid arrest of certain other 'spreading' inflammations—such as erysipelas, diphtheroid, and hepatic sore throats—by the administration of this drug; and that I stated at the time, and wish now to repeat the statement, that, in my judgment, the cases that I could then bring before you, and those which I can now submit to your consideration, are not sufficiently numerous to establish a therapeutic position; but that they are, so far as I can see, sufficiently significant to warrant a further trial of a mode of treatment which is certainly better than that which Warren said was all that he knew of that was good for rheumatism, viz., six weeks.

"In the front of this paper I wish to state, that very many cases that have been under my care, both in hospital and in private practice, but of which I have no sufficient notes, have left upon my mind the strong conviction that those which I am able to bring before you under-rate rather than over-rate the value of the mode of treatment that I have suggested. This I am convinced is the case especially with regard to the time of the relief afforded to spontaneous pain.

"The treatment has been generally the administration of the tincture of perchloride of iron, in doses varying from 15 minims to a drachm every four hours, with or without 20 to 30 minims of glycerine and spirits of chloroform. No

patient has complained of any discomfort of any kind which could be referred to the medicine.

"The facts which I have to submit to you have been gathered by my very able clinical assistant in University College Hospital, Mr. Voelcker, from the case-books of Sir William Jenner, Dr. Wilson Fox, and myself. The cases are sixty-five in number, all treated by iron, and the general results are as follows: Hyperpyrexia occurred in 3 cases; was fatal in 2, relieved in 1 on the seventeenth day. A normal temperature was observed throughout in 2 cases; 1 presenting friction sound and systolic apex murmur, probably old. No heart-affection was observed in 27 of 52 cases. The joint-affection was severe in 18, of medium intensity in 16, and but slight in 5. The severity of the disease, as judged of by the temperature before the commencement of the iron treatment, may be represented thus, generally, that in 37 of 52 cases it was at or above 102° Fahr.

"Analyzing these cases more minutely, I find the following results:—

"1. With regard to the date on which the temperature became normal after the commencement of treatment, that in 20 of 57 cases the normal condition was reached on or before the fifth day in 26, *i. e.*, in 45 per cent., before the end of the first week; in 15, between the fifth and tenth day, *i. e.*, in 35 cases, or 61 per cent., before the tenth day; in 15, between the tenth and twentieth days; *i. e.*, in 50 cases of 57, before the end of the third week. The most important point to notice here is, that in 36 per cent. the temperature was normal on or before the fifth day after the commencement of iron treatment.

"2. The date of the disappearance of all pain may be shown thus: in 2 cases on the second day, in 3 on the third, in 6 on the fourth, and in 4 on the fifth, that is to say that in 15 of 57 cases (22 per cent.) all pain had gone by the fifth day; in 14 other cases, the pain had ceased after the sixth and before the tenth day. This gives 29 of 57 cases, more than 50 per cent., free from pain on or before the tenth day. And further, 22 cases found relief between the tenth and twentieth days; *i. e.*, 51 of 57 cases were relieved of all pain within twenty days. Here, again, the principal point of interest is the earliness of the date upon which pain disappeared in a considerable number of cases.

"3. The relation between the *severity* of the disease, as judged of by temperature elevation, and its duration after the iron was administered, may be thus exhibited in 52 cases. Under 101 degs. Fahr. of 15 cases, the temperature became normal in 7 during the first week, in 5 during the second week; at 102 degs., and between 101 and 102 degs. of 19 cases, the temperature became normal in 11 during the first week, in 2 during the second week, and in 9 during the third and fourth weeks. In 14 cases when the temperature was 103 degs. at the commencement of treatment, 4 convalesced in the first week, 4 in the second, 5 in the third, and 1 in the fourth. Of 4 cases in which the temperature was 104 degs. when the iron was first given, 2 presented a normal heat in the second week, and 2 others in the third.

"The result of this examination may be most correctly exhibited by dividing the cases into two groups, those in the first having a temperature ranging from 99 to 101 degs., those in the second group varying from above 101 to 104 degs. Of the first group, 15 in number, 46 per cent. convalesced during the first week; of the second group, 37 in number, 40 per cent. attained a normal temperature within the same period. It is obvious from these facts, that the duration of fever after the administration of iron was not determined, and but slightly affected (6 per cent.) by the degree of fever which had been previously attained. In other words, it was in severe as well as in moderate and mild cases, that the beneficial effects of treatment might be observed.

"4. The degree to which the condition of the heart affected the duration of fever in cases of acute rheumatism, may be shown in 52 cases; thus, in 21 cases the heart was healthy throughout, and of these, 10 convalesced within five days, and 6 between the fifth and tenth days; whereas, of 31 cases with endocarditis, pericarditis, or the two combined, but 9 reached a normal temperature on or before the fifth day, and 6 between the fifth and tenth days. Further, of those 21 cases in which the heart was healthy, five only presented an abnormal temperature beyond the second week; while of those 31 in whom heart disease

existed, 16 remained feverish beyond that period. Representing these facts by calculations per cent., they stand thus: that when there was no cardiac affection the temperature was normal before the tenth day in 76 per cent., and when there was heart disease only 22 per cent. convalesced during that period. It may be interesting further to know, that of these 52 cases, 16 presented endocarditis alone, 7 pericarditis alone, and 8 endopericarditis.

"From this it is obvious, that the presence of cardiac affection protracted the duration of the fever, and, *pro tanto*, diminished the beneficial action of the drug.

"5. The influence of the severity of the joint-affection upon the duration of the abnormal temperature may be exhibited in 39 cases. In 18 the severity was great, in 16 medium, and in 5 inconsiderable. Of the 18 severe cases the temperature became normal within the fifth day in 4, between the fifth and tenth days in 5, between the tenth and fifteenth in 4, and between the fifteenth and twentieth in another 4; and, in one case, it was not reduced to 98.4 until the thirtieth day. In 21 cases of medium or slight severity, the temperature was normal in 7 before the fifth day, in 8 between the fifth and tenth days, in 3 between the tenth and nineteenth days; in 2 medium cases it remained elevated until the twentieth day; and, in one mild case, the fever continued until the thirtieth day.

"Representing these facts by percentage, they show that in severe cases the temperature became normal before the tenth day in 50 per cent.; and that it was normal in moderate and slight cases in 71 per cent. by the same date. Or, separating those of a medium severity from those of but slight joint affection, we find the temperature normal before the tenth day in extreme cases in 50 per cent., in moderate cases in 68 per cent., in mild cases in 80 per cent. Remembering that, as a rule, endo- and pericarditis are more frequently found in cases of severe than of but slight joint affection, the facts that I have stated cannot, I think, be referred to the mere chapter of accidents. I do not remember to have seen under other modes of treatment one half of the cases of *severe* acute rheumatism, presenting a normal temperature within fifteen days from the commencement of treatment.

"6. The length of the persistence of pyrexia after the commencement of treatment by iron in relation to the day from the attack at which such treatment was begun, is somewhat curious. No case was treated before the third day of the attack; and of those which were treated within the first week, 23 in number, 10 presented a normal temperature before the seventh day, 8 before the end of the second week, 1 in the third week, and 4 in the fourth. Of those, 15 whose treatment did not commence until the second week from the date of attack, 5 presented a normal temperature within seven days, whereas abnormal heat remained in 8 until eight and twelve days from the administration of the iron. It is interesting to note that in two cases, each of whom had suffered for longer than three weeks before the medicine was given, this temperature became normal in one on the second day, and in another on the third. Of 45 individuals, including extreme cases, the mean duration of fever after giving iron was eleven days; and this was so in each of two groups, one of 25 in whom the treatment was commenced before the seventh day, and in the other, of 20 cases who had undergone no treatment until after that date. The point of importance lies in the fact that, although, when treated within the first week, 43 per cent. presented a normal temperature within seven days, and that when the treatment was not commenced until the second week, 33 per cent. lost their fever during the same period, it is not warrantable to conclude that the date at which the case was taken into hand alone determined the duration of the malady, for in two cases which had resisted other treatment for a period of three weeks, relief followed the administration of iron, and the temperature became normal within three days.

"The relation between the number of attacks which the patients have suffered, and the duration of abnormal temperature may be thus shown in 55 cases; 29 were in their first attack, and of these, 13 lost all fever within the first week; 9 within the first five days; 19 were in their second attack, and of these 7 were of normal heat within six days; 6 were in their third attack, and of these 3

presented a normal temperature within five days. Or, putting it another way, of those who were in their first attack, 44 per cent. were convalescent within the first week, while of those who suffered in their second, third, or fourth attack, 42 per cent. recovered within the same period.

"It is obvious from these facts that so far as iron treatment is concerned, it is a matter of indifference whether the patient be suffering in a first, second, or third attack.

"In several cases I have observed a remarkable diminution in the frequency of the pulse at and after the time at which the temperature has become normal; thus it has been as low as 40, 30, and even 28, but regular in rhythm and force, and the patients have made no complaint of pain or faintness.

"I have purposely stated the facts already in my possession, in a bald manner, and have avoided all theory with regard to the treating, that at some future meeting of this Association I may be able so to increase their number as to be able positively to answer the question as to the utility of treating acute rheumatism in the manner I have described."

On the Use of Cold Baths in Cerebral Rheumatism.

At a meeting of the Société des Hôpitaux of Paris (*Bull. Gén. de Therap.*, March 30, 1875), the use of cold baths in cerebral rheumatism was the subject of discussion. M. FÉRÉOL introducing to the members an account of a case so treated. The patient was thirty-four years old, of quiet and temperate habits, who was suffering from acute articular rheumatism. He was treated at first with emetics, sulphate of quinine, and colchicum, but in five days he was seized with delirium, agitation, and dyspnoea, and at the same time the pains in the joints disappeared. The temperature of the body rose to forty degrees (Centigrade), and leeches, calomel, and bromide of potassium were given without success. The temperature rose further to forty-one degrees, and blisters were placed on the hairy scalp, and digitalis was given. There was then a little more rest, but the aspect was typhous, with stupor and continuous subdelirium; sleeplessness, agitation of the muscles, subsultus tendinum, dry tongue, etc. After some consultation with other physicians it was determined to try the effects of cold baths as the only remaining resource. This plan was pursued for a whole week, the patient remaining under close observation the whole of the time, and the thermometer being almost fixed under the axilla. As soon as the temperature rose to 39.5° the patient was plunged into a cold bath. From the 25th of February to the 3d of March sixteen baths were administered at a temperature varying from twenty-one to twenty-five degrees (Centigrade), and the duration of each bath was twenty minutes on the average. The patient always raised the temperature of the water from one to two degrees, and, on leaving the bath, his own temperature fell to thirty-six degrees. After several fluctuations and much anxiety on the part of the medical attendants, the patient eventually recovered completely. M. Féréol insists on the absolute necessity of constant and intelligent supervision during this mode of treatment, and he states that the life of the patient depends on such care being unintermittingly bestowed. This was the third case of cerebral rheumatism cured in France by the use of cold baths. Dr. Dujardin-Beaumetz, in making some observations on M. Féréol's case, thought that it was necessary, before laying down precise rules as to the treatment of cerebral rheumatism by cold baths, to determine what was meant by the disease in question. He believed that the treatment was inapplicable to many of the cases of cerebral rheumatism so called, and that it was only adapted to that form of disease described by Troussseau as *névrose rhumatismale*, and by Wunderlich as *maladie rhumatoïde à forme nerveuse*.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

Alterations in the Brain in Typhoid and Typhus Fevers.

Dr. LEO POPOFF, of St. Petersburg, has lately examined microscopically the brains of twelve individuals who had died of typhoid fever, and in all he found changes of an acute inflammatory character, involving not only the walls of the bloodvessels, but also the neuroglia and the ganglion cells. There is proliferation of the elements which form the coats of the vessels, accompanied with a deposit of fat and pigment. The neuroglia is infiltrated with young cells, due to the repeated subdivision of its nuclei, and the ganglion cells are not only surrounded with wandering cells, which fill the so-called pericellular spaces, but are also penetrated by them. At the same time the nuclei of the ganglion cells undergo division, and the ganglia may become filled with smaller cells, which fall out in the course of microscopic preparation, leaving a number of perforations in the section. Wandering cells are found not only round the ganglion cells, but also along the course of the vessels and the nerve fibres, but they are most numerous close to the ganglia.

Alterations nearly similar to the above may be produced artificially in dogs and rabbits by traumatic and other inflammatory processes; but whereas in typhoid fever the appearance of wandering cells distinctly precedes any active changes in the nervous elements themselves, in other cases these changes are the predominant ones, and there is also a development of granulation corpuscles, which are entirely absent in typhoid fever. Dr. Popoff has, since the publication of these researches in *Virchow's Archiv*, lxi., supplemented them by the examination of the brains of three persons who died in Professor Botkin's Clinic at St. Petersburg of typhus fever, and he has given a summary of his results in *Centralblatt* (No. 36, p. 596).

The changes in and around the ganglion cells, and the infiltration of the neuroglia with young cells, are identical with those in typhoid fever, while proliferation of the elements of the walls of the bloodvessels is more marked and extensive than in the latter, and capillary hemorrhages are sometimes present. The most interesting pathological alteration in typhus is the development of nodules, which, when seen with a low power, resemble miliary tubercles in shape and size. They occur in the cortical substance of the cerebrum and cerebellum, as well as in the corpus striatum and lenticular nucleus. They are very numerous near the bloodvessels, though they occur in smaller numbers elsewhere. With a high power (Hartnack, iii. 7) they are found to consist chiefly of cells identical with lymph cells or white blood-corpuscles, and in certain regions—*e. g.*, the peripheral finely granular layer of the cortex cerebri—they consist exclusively of these. Elsewhere, however—*e. g.*, in the other layers of the cortex and in the corpus striatum—other elements closely resembling the nuclei of the ganglion cells are present, and also the remains of the fibro-granular tissue in which the nodules form.

The nodules do not undergo the central degeneration to which tubercles are liable, and no giant-cells, or any peculiar stroma could be detected in connection with them. Dr. Popoff considers that they are analogous to certain nodules which Wagner has described in the liver and kidneys in typhoid fever. They only occurred in two out of the three cases of typhus examined, in young men, aged twenty and twenty-two years respectively. The patient in whom they were absent was thirty-seven years old. There were severe cerebral symptoms in the younger patients; delirium and convulsions followed by coma and depression. In the third case there was more excitement, and only a very short period of stupor, and the capillaries of the brain were found in an extremely congested state, as if they had been injected.—*Med. Times and Gaz.*, Sept. 25, 1875.

Intra-Cranial Aneurism diagnosed during Life.

Dr. WILLIAM E. HUMBLE reports (*Lancet*, Oct. 2, 1875) an interesting case of this:—

"The rarity of cases of intra-cranial aneurism diagnosed during life induces me to forward an account of a case now under my care. And I do so

at the present time, rather than wait for the ultimate issue of the case, in order to draw attention to the importance of practising auscultation of the head more frequently than we are in the habit of doing.

"So far as I can find, there are but two cases on record in which intracranial aneurism has been diagnosed during life—one by Mr. Coe, of Bristol, in which the carotid artery was tied successfully; and the other by Mr. Jonathan Hutchinson, who related the case at the Clinical Society on the 9th of April, 1875, and in which a spontaneous cure occurred by consolidation of the aneurism, as demonstrated by examination after death from another cause. Mr. Holmes, in his lectures on Aneurism, refers to Mr. Coe's case, and in the same lecture relates another case of intra-cranial aneurism which was for a long time under observation, but in which auscultation was unfortunately not practised, and the disease not diagnosed during life.

"Mr. Holmes says: 'We know nothing at present of the diagnosis of intracranial aneurism, so that no treatment can as yet be directed specially to it. And, looking at the very free intercommunication of the four large trunks which nourish the brain, it seems unlikely that surgical measures directed to any one of them would procure the consolidation of an aneurism situated on one of its main branches.' I think that a careful consideration of Mr. Cole's and Mr. Hutchinson's cases together with that I am about to relate, and the clearly defined symptoms in each of them, may perhaps lead us to look more favourably upon the possibility of diagnosing this disease within the head.

"Mrs. —, a lady aged forty, has had a family of several children, the youngest is seven and a half years old. During the last two or three years she has been getting much stouter, having previously been rather thin. Her habits of life have been active and regular. Has been subject for several years to severe attacks of hysteria, so severe as even to threaten the intellectual faculties, and was the subject of one of these attacks about a year and a half ago, since which time she has been quite free from them and her mind tranquil. Her parents are both alive, and there does not appear to be any hereditary predisposition beyond gout, to which her father is subject; has not herself suffered from gout or rheumatic fever, or other constitutional affection. Has not received any injury to the head, except that about ten years ago she struck her head rather severely with the bough of a tree.

"In March, 1875, she suffered, as did also the children, from an attack of epidemic febricula, and while labouring under it was seized with severe neuralgia of the right brow and adjacent region. The pain was constant, but with severe exacerbations. She also complained of some indistinctness of vision, with slight diplopia, but without perceptible squint. The neuralgia was much relieved by local application of aconite and chloroform, and after a short time disappeared. She never, however, lost the double vision. About the middle of May she told me she was still suffering from the disturbance of sight, and there was also some amount of photophobia, with slight contraction of pupil, especially of the right eye. Under the use of belladonna collyrium she was much relieved as regarded the photophobia, but the squint continued to increase, and became very decided. The power of the external rectus muscle was not quite lost, and she could by an effort of the will still direct the eye to some extent outwards. She also complained of a constant loud noise in the head. I ventured now to state to the patient that I had reason to fear that a tumour of some kind existed at the base of the brain, and recommended the occasional application of leeches to the temple, blistering behind the ear, etc. This plan was adopted, and she was also put gently under the influence of mercury, keeping the gums just tender for a week or two. The squint continued, although it certainly became less, and on the whole she thought herself better; but the noise in the head continued as loud as ever, and was a serious inconvenience to her, and not at all relieved by the bleeding from the leeches. Her indistinctness of vision also continued, though rather lessened in degree.

"About this time she mentioned to me, as a curious circumstance, that her children said they could hear the noise in her head when they placed their heads against hers. On applying the stethoscope to the head I at once heard

a rather loud systolic bruit accompanying each pulsation of the heart. The sound was of a blowing character, and was heard loudest over the right temple just above the anterior inferior angle of the parietal bone, thence diminishing in loudness to the vertex, and again louder at the corresponding part of the left side of the head, where it was nearly as loud as on the right side, though to my ear it seemed rather more distant. The sound is heard by the patient loud in the right ear and not in the left. The rapidity and loudness of the murmur are increased both to the patient and the auscultator by exertion or whatever excites the circulation. I was now convinced I had to do with a case of intra-cranial aneurism, probably of the internal carotid artery at the cavernous sinus, which, by its pressure on the sixth nerve, caused the strabismus, and had caused the neuralgic pains connected with the fifth. The convection of the sound so clearly to the two sides of the head was at once accounted for. I explained the nature of the case generally to my patient, and told her that I was of opinion that the operation of ligature of the carotid should be performed. On the 25th of June I had the pleasure of meeting in consultation Dr. Lush, of Weymouth, who, after a careful examination of the patient, agreed with me in every respect as to the diagnosis and treatment proposed.

"My notes at the time state that her health is, except as regards the local symptoms, generally good. She says she has occasional feelings of sickness. Appetite good; bowels regular. There is no valvular murmur heard over the base of the heart, nor any systolic bruit in the neck. A musical venous murmur is heard at the base of the neck, but only produced by a certain amount of pressure with the stethoscope. An attempt was made to stop the noise in the head by pressure on the common carotid, but in consequence of the shortness and stoutness of the patient's neck it was not found possible with any moderate amount of pressure to compress the artery sufficiently effectually to stop the pulsations or the aneurismal sound in the head. She sleeps well, and in fact is more inclined to sleep than usual, at times almost falling asleep in the daytime. The special senses are not affected, except vision slightly. There is no paralysis of either of the extremities, though she has been subject to occasional numbness of the fingers. Catamenia regular.

"Ligation of the carotid has been declined by the patient, at least for the present. Mr. Tufnell's plan, by absolute reconvalescence and restricted diet, was then urged strongly, but with no better success, so far as concerned a fair and full trial of the plan; and I then determined on adopting the means so strongly advocated by Dr. Balfour for thoracic aneurisms. That plan is now being carried out, and I propose at a future time supplementing this communication by another recording the treatment and its results, with such further information as may be obtained in the progress of the case."

On Hypodermic Injection of Ergotine in Certain Cases of Acute Mania.

In the *Allgemeine Zeitschrift für Psychiatrie*, Band xxxii. Heft 2, Dr. A. H. VAN ANDEL reports the results of cases of mania in which he has injected ergotine, together with his reasons for pursuing this method of treatment. The author first gives a short description of the class of cases to which he considers this plan most applicable; they are those in which a previously healthy patient, after a week or two's restlessness, suddenly breaks out into a state of violent mania, with raised temperature and symptoms of congestion in the head, such as flushed face, injected conjunctivæ, throbbing carotids, contracted pupils. In these cases of acute delirious mania opium is contraindicated; tartar emetic in large doses quiets the patient, but injures the digestion, and fails to cure the insanity; prolonged baths or the wet sheet are of doubtful benefit. Ergotine had previously attracted attention by its use in the treatment of migraine, and Crichton Browne had given it in some cases of epileptic insanity and chronic mania without much result. Brown-Séquard saw the vessels of the meninges contract after the injection of ergotine, and this was confirmed by Hermanides. Van Andel first used this treatment in

the autumn of 1873. His patient was a female epileptic in the "status epilepticus;" she had had a similar attack two years before, which had lasted a long time, and was not perceptibly benefited by the usual methods of treatment, viz., ice to the head, leeches, bromide of potassium, morphia subcutaneously, etc. Both in this case and in another similar one, in which death from exhaustion was feared, great good seems to have resulted from the new treatment; in the former case the attack did not last one-third so long as the previous one had done. Each injection consisted of one decigramme (about one and a half grains) of ergotine in half a gramme each of glycerine and rectified spirit.

Another case is related pretty fully by the author. It is that of a robust sailor, aged forty, who, in one fortnight, had three distinct attacks of furious mania, each lasting several days. The latter two of these outbursts were treated by injections of ergotine, and the application of ice, with good results. The patient has since remained quite well. In all, fifteen injections were made in the fortnight, the same dose as above being given twice daily when required. The symptoms of cerebral congestion disappeared with each remission of the symptoms. This was the only case in which the injections were followed by small local abscesses, but these gave little trouble; in some other cases small tender swellings formed at the seat of injection. No disagreeable local results have been caused in cases where ergotine has been administered in this way for *post-partum* hemorrhage.

The author has now employed this method of treatment in many cases to counteract hyperæmia of the nervous centres. He reports the usual effects to be lessening of excitement, the gradual cessation of raving, crying, and storming, the patient, although confused, becoming more manageable, and that sometimes the injection was followed by a refreshing sleep. As cases of acute delirium are often of short duration, and frequently are never sent to an asylum, it is desirable that any method of treatment which is followed by markedly beneficial results, should be known to the profession at large; but, as the author rightly remarks, further observation is needed, aided, if possible, by thermometer and sphygmograph.—*Lond. Med. Record*, Sept. 15, 1875.

On some Points in the Diagnosis of Sclerosis of the Nervous System.

M. MOLLIÈRE's object in publishing these short notes (in the *Lyon Médical*) is to draw attention to some points, hitherto very obscure and but little studied, relating to organic diseases of the nervous centres. A more perfect knowledge of these details may enable the practitioner to combat these formidable affections in time; for, as M. Charcot has very judiciously observed, when we first come to diagnose sclerosis, the disease is completely established, and all hope of removing such alterations as exist is almost entirely dissipated.

The proliferation of the cells of the connective tissue (neuroglia) can be checked only at its early period of growth; at a later period, when this embryonic tissue is completely transformed into fibrous tissue (sclerosis) compressing and destroying the nervous elements, we can no longer hope to restore it to its natural state. It is greatly to be desired, then, that the physician should be acquainted with a certain number of symptoms which would enable him to recognize this interstitial morbid process while there is yet time for its successful treatment.

M. Charcot has taken great interest in this question, and has established these two important points, to which M. Mollière calls attention: 1. The development of the symptoms and lesions of locomotor ataxy in individuals previously affected with double atrophy of the retina; and 2. The frequent development of extensive sclerosis of the nervous centres in patients who have presented, for many years, the phenomena of well-marked or abnormal hysteria. With regard to the first kind of facts, M. Mollière has no personal observations of his own to offer; but of the second or hysterical kind, he is able to bring forward a certain number of cases. It is necessary to watch these patients for a considerable time in order to see their fatal end.

One of two cases brought forward by M. Mollière was a young woman with

strongly marked hysterical antecedents, and who was admitted into the hospital with all the symptoms of the most striking hysterical paraplegia. This diagnosis was confirmed by all those present. She remained two months in the hospital without any great improvement. One morning she was seized with general symptoms of a formidable character, in consequence of some vexation. She died the same evening. At the necropsy, several patches of sclerosis were found on the pons Varolii, affecting deeply the subjacent nervous tissue. The medulla and spinal cord were healthy.

About the same time there was in the hospital a poor girl equally hysterical. Every one agreed in the diagnosis of the case.

It was a typical case of hysterical hemiplegia. However, for several months she had complained of violent pain beneath her left breast, to which little attention was paid on account of the whimsical character of the patient. She could still manage to walk, and what is more, if her hand were grasped unawares, she could be made to run as far as the end of the ward. She was again examined, when it was found that, besides an affection of the retina, there was muscular atrophy of a most marked character on the whole of the paralyzed side. From this moment, M. Mollière watched this patient with great attention, and all these symptoms were found to go on increasing. When he lost sight of her, she was in a home for incurables. In short, all those strange and abnormal forms of hysteria, while simulating real lesions, do not simulate them so much as has been supposed, but are in many even the very proofs of those lesions. Hence, while we adopt a general mode of treatment for what we may consider as hysteria or a nervous affection, it would be well to employ, also, according to circumstances, some of those powerful remedies which are adopted in cases of organic lesions, and which are often inefficient because they are employed too late.

But while in women we find most valuable information for diagnosis and prognosis in affections which are said to be hysterical, among men it is in the existence of obstinate and prolonged neuralgia that we gather this information; so that every obstinate form of neuralgia, the general or local etiology of which is unknown, should be watched with great attention, and awaken a suspicion as to the existence of central and profound lesions. The following facts will serve as examples:—

A patient enters the hospital with a most painful sciatica, especially at the level of the gluteal region. After some time, the pain is subdued. The patient is made to walk, but he is found to be ataxic, although he states that he walked properly before the neuralgic attack.

Another patient suffered from chronic gastralgia with obstinate vomiting. Affections of vision led to a proper diagnosis. The patient tottered, and had also affections of sensibility. Sclerosis of the cerebellum was considered probable. Later on he became ataxic, and could not walk, but his intellect was unaffected. There was, also, well-marked muscular atrophy. It is the same in general paralysis.—*London Med. Record*, Sept. 15, 1875.

Nitrite of Amyl in Facial Neuralgia.

DR. GEORGE H. EVANS, Assistant Physician to the Middlesex Hospital, London, places upon record the following cases (*Practitioner*, September, 1875):—

It occurred to me about three years since, on first becoming acquainted with the effect of inhalation of nitrite of amyl, which was then said to flush the small vessels (first of the face and then of the trunk) by paralyzing the vasomotors, but which at all events caused flushing of the face, etc., that it might possibly give relief in some of those cases of facial neuralgia which are obviously connected with, if not dependent on, anæmia. A case occurred which gave me an opportunity of testing this. A girl applied at St. Thomas's Hospital one Thursday morning about 11 A. M., trying to get some relief for neuralgia, which had prevented her (she said) from sleeping since the previous Saturday. She was evidently in considerable pain, and markedly anæmic. Hoping for a possible immediate effect, I made her inhale some nitrite of amyl.

It took rather a longer inhalation than I expected to produce the usual flush : however, it came, and she then said that she felt a throbbing and beating in her head, but the pain was subsiding. In a very few minutes she said the pain had left her. I was very doubtful about the amyl producing anything more than simply temporary relief, so I told her to come again if the pain recurred. She did not come again to me ; but she attended Dr. John Harley (she was already an out-patient under him) on the Saturday, and said she had had no pain since the inhalation. I did not see her again.

The next case in which I used it for this purpose was that of an anæmic young woman who was in St. Thomas's Hospital with acute rheumatism, and who during her convalescence suffered much from facial neuralgia, which she said had tormented her since childhood. On her the inhalation of amyl did not produce quite so striking an effect as on the former patient ; but it invariably gave her relief, so much so that she said : "I wish you would let me take that little bottle out with me ; I have tried all sorts of things, and never found anything do me so much good as that."

The third case I have to mention is that of a young lady who was, in September last, suffering from very severe neuralgia, whom I knew to be generally anæmic, and whom I noticed to be much more anæmic than usual at that time. She told me she was always paler when these attacks came on. I gave her some amyl to inhale : it was some time before it produced any effect, visible or otherwise ; but as soon as it had produced a slight flush, she said the pain was relieved. I saw her three weeks later, and she told me that she always prevented the attacks of neuralgia by inhaling amyl when she felt they were coming on. One of her sisters, who was not anæmic, incautiously one day sniffed at the amyl bottle, probably because I had especially cautioned my patient against allowing any of her sisters to use it ; and immediately her face became most painfully flushed, and she felt sufficiently uncomfortable to prevent her repeating the experiment. I think, from what I have seen of its use, that anæmic people (as one might expect) can bear very much larger doses of nitrite of amyl than those who are not anæmic.

On the Relation between Exophthalmic Goitre and Vitiligo.

Dr. RAYNAUD (*Archives Générales de Médecine*, June, 1875) gives five cases of exophthalmic goitre, culled from various sources, in the course of which patches of vitiligo appeared on various parts of the body. Beyond the observation that vitiligo is more common in men than in women, except when congenital, that it attacks by preference persons of dark complexion, that it is sometimes, though rarely, hereditary, and has a certain analogy to Addison's disease, viewed as an imperfect vitiligo, little has been made out with regard to its pathology. Mr. Hutchinson has pointed out that although no known cachexia appears to set up a predisposition to the affection, the symmetry of the cutaneous patches is suggestive of some pre-existing general fault of the circulatory or nervous systems, and is opposed to the hypothesis of a parasitic origin. Without offering any explanation of the coexistence of vitiligo with exophthalmic goitre, Dr. Raynaud thinks that the coincidence should not be allowed to pass unnoticed. [The nature of the connection between the two diseases deserves further investigation. Dr. W. B. Cheadle states, that although he has carefully examined a considerable number of cases of each of these two affections, he has never met with both in the same individual in a single instance.]—*London Med. Record*, September 15, 1875.

Auscultation of the Œsophagus.

Dr. CLIFFORD ALLBUTT, Physician to the General Infirmary, Leeds, presented an article on this subject to the Section on Medicine of the British Medical Association (*Brit. Med. Journ.*, Oct. 2, 1875).

Diseases of the Œsophagus often prove somewhat difficult of investigation, and it is not likely that we shall ever succeed in bringing this tube within

the range of vision, as we have brought the larynx, the inner eye, and even the cavity of the bladder. Diseases of the œsophagus, moreover, even when benignant in character, have a peculiar terror in the peril of starvation which threatens the sufferer. Any help, then, which we can obtain either in our diagnosis or our treatment of disease in this part, should be carefully cherished; and for this reason I venture to bring before you a means of diagnosis which, in my opinion, has been unduly neglected. The only means used in cases of alleged disease of the œsophagus are the catechizing of the patient and his friends, and the exploration of the tube with the sound; and not unfrequently this latter cannot safely or judiciously be employed; in which case we are wholly dependent upon more general clinical observation and inquiry. The method of auscultation of the œsophagus which I have found to be useful is especially useful in cases of this kind, and will tell us much that we could not otherwise discover with any certainty. Nevertheless, I do not find that auscultation of the œsophagus is commonly practised. Nay, I cannot call to mind a single consultation in a case of this kind where the patient's medical attendant had used auscultation or had even heard of it before I pointed it out to him. Nor, again, in the ordinary text-books on medicine do I find any allusion to auscultation of the œsophagus; nor is it described in special treatises on auscultation. So far as I know, the only systematic account of the method is to be found in the papers of Hamburger, which appeared in the *Österreichische Medicin Jahrbucher* for 1867-8-9. My own initiation into the plan was through these papers; but whether Hamburger was the first to introduce it into practice, I know not, nor in this place does it much matter. During the six or seven years that I have tested Hamburger's statements, I have found that, although there is much exaggeration, inaccuracy, and whim in his way of putting them, nevertheless, after all deductions, there remains a solid residue of valuable observation.

The method of auscultation of the œsophagus depends upon the audibility of the swallow both in the neck and thorax. It is best, of course, to educate the ear at first upon a healthy subject. The subject is requested to take a mouthful of water, and to swallow it at a signal. The operator then places the stethoscope (Sibson's stethoscope is the best for the purpose, I find, but any stethoscope will do) first upon the trachea anywhere between the hyoid bone and the supraclavicular fossa. The signal being given, the patient now swallows; and, as he does so, a very distinct resonant gurgle is heard at the place of the stethoscope. This sound, which is very loud at the hyoid bone, where the water is as it were slung through a tube into the observer's ear, becomes duller as the instrument is removed to deeper parts of the neck. Below the cricoid cartilage, the sound is more heavy or solid in character, and the morsel is as it were shoved downwards with a whiz. To examine the lower part of the œsophagus, the instrument must be removed to the spine, and must be carried down the left side of the spines of the first eight dorsal vertebræ. Here the sound is still more distant, though still very distinct, and is like a smooth body slipping through with a sort of cluck.

By repeated observations upon the healthy subject, the operator must make himself thoroughly familiar with the tone, with the apparent size of the morsel, with the energy of the œsophageal contraction, with the rapidity of it, and also with the direction of the morsel. The rapidity of the passage of the morsel is ascertained by putting the instrument over the cardiac orifice while a finger is placed upon the larynx. The moment of commencement of deglutition is known precisely by the rise of the larynx; the moment of its completion is recognized by the ear. The rate of the swallow varies a little in individuals, and is generally distinctly slower in weakly persons at all times, and in healthy persons after a prolonged meal. The direction of the swallow may be reversed, as in regurgitation. In this case, the gulped fluid eddies as it were in a funnel with a prolonged resonant gurgle; or the direction of the swallow may be diverted, as in one case under my notice, where the œsophagus was perforated, and the matters escaped into the pleural cavity. Hamburger had more than one case of the kind; and he prepared me to recognize this condition, which was quite easy when one was thus forewarned. The small quantity of diverted

fluid passed through the chink in the œsophagus with a kind of sizzling murmur. Pyopneumothorax of course was present as a consequence, and there was thereby a metallic quality added to the tone. Or, again, while the swallow still runs in the tube, it may be heard to cross the vertebral column, and to appear on the right side only for a greater or less distance. Hamburger relates a case of this kind, in which it was found, after death, that the œsophagus had been pushed over by an aneurism of the descending aorta. The swallow was in no way interfered with, so that it seems desirable to auscultate the œsophagus as a routine in cases of suspected aneurism of the descending aorta. The energy of the swallow must be considered apart from its rapidity. In cases of dilated œsophagus, the fluid may pass the tube quickly enough; but the absence of energy of contraction is known by the want of grasp. The fluid passes down the tube with a squirting or running sound, not as though slung in a piece. It must be remembered, however, that in obstruction at the cardiac orifice, the accumulation of mucus may, and often does, modify or prevent the usual sounds for some five or six inches above the seat of the disease. In tender places, as in ulcers of the œsophagus, Hamburger says that the morsel may seem to stick or recoil. My own experience does not enable me as yet to speak decidedly on this point. It sounds to me rather like an over-refinement. So, again, with the rubbing or friction-sounds in inflammation of the tube, which I certainly have never been able myself to detect. But the *tone* of the swallow, on the other hand, is changed in quality by the presence of rough ulcers and the like on the inner surface of the tube, so that it becomes deadened; though the more common and more easily known result is the prolongation of the morsel. It is, indeed, the prolongation of the morsel which, more than all other changes, has caught my own ear. Almost all changes in the inner surface of the tube may be regarded as diminutions of its calibre, and as checks to its peristalsis: so that, where disease exists, be it ulcer, be it contraction, be it tumour, we hear there a slackening of the rate at which the morsel is slung downwards, and a prolongation of the morsel itself. It tails off and slackens as it passes by. If the stricture be tighter, the morsel, when it reaches the spot, eddies through with a creak, or even with a squeak. If the stricture be tighter still, we hear the resonant regurgitation of which I have already spoken.

After thus describing the changes in the swallow readily to be heard in the various states of disease, I need not stay to point out how valuable these signs must prove in the consulting-room. My hearers will be astonished, when they put it to the test, how readily they will spot the exact site of an organic stricture, and how easily they may prove the nervous nature of a dysphagia which causes no stethoscopic disturbances in the swallow. Time will not allow me to read notes of the numerous cases in which I have found œsophageal auscultation of value: but among the best of them are many in which the absence of organic stricture was thus almost proved, to the infinite satisfaction of timid patients and their timid friends, who shrank in fear from the name of the sound; while in others the unmistakable signs of a local stricture have forbidden us to nurse any hopes of a spasm which might pass away. For spasmodic dysphagia is unknown to the stethoscope.

On the Significance of Prolonged Expiration, and on Tenderness on Percussion.

Dr. SOLGER, of Reichenhall, writes, in the *Munich Aerztliches Intelligenz-Blatt* for June 22 last (No. 25, Jahrgang 22), that he has noticed that tenderness on percussion in the supraclavicular region is often associated with prolonged expiration, and with enlarged lymphatic glands. He uses a moderate-sized hammer, weighing about one ounce, taking care not to press on the edge of the plessimeter, or to make actual pressure upon enlarged glands. He says percussion with the fingers does not elicit this pain. The enlarged lymphatic glands noticed by him are seldom on the sterno-cleido-mastoid, and those in that situation generally depend on a different cause. The glands in question are found on the anterior border of the trapezius, and towards the back of the head, chiefly in the lower part of the neck, especially in the triangle between

the trapezius and the sterno-cleido-mastoid, whose base is formed by the *scaleus* muscle. There the cervical plexus, the sympathetic and vagus nerves, all meet; and the deep lymphatics of the chest, especially those of the pleura, are in relation with the cervical glands. To these glands, and to inflammation in the peribronchial connective tissue, causing compression of the smaller bronchi, he attributes the prolonged expiration heard in the early stages of many lung-diseases. Other theories are discussed, but there is little of novelty to the English reader; and the reporter thinks Dr. Solger not quite accurate in limiting prolonged expiration to the earlier stages only of lung-diseases.—*London Med. Record*, Sept. 15, 1875.

On Whooping Cough.

Dr. NOËL GUENEAU DE MUSSY (*L'Union Médicale*, July 10) attributes those chronic forms of whooping cough which persist sometimes for several years, and thus form a remarkable exception to the laws which govern other contagious maladies, to a morbid condition of the bronchial glands. He further considers that in whooping cough generally the affection of the bronchial glands forms the intermediate link between the congestion of the respiratory mucous membrane which characterizes the catarrhal period, and the irritation of the pneumo-gastric which is the special feature of the spasmodic stage of the disease. In the first stage of whooping cough the congestion of the mucous membrane is visible in the fauces and throat. The uvula is red and injected, and two bands of rosy red color are seen running along the inner side of the anterior pillars of the fauces, until they unite at the base of the uvula. The isthmus and pharynx are similarly injected, and the glands of the latter are prominent, giving to the mucous membrane a granular aspect.

This congestion of the throat and fauces presents special features of form, seat, development and course, which not only distinguish it from the laryngo-pharyngeal congestions of catarrh and influenza, but characterize it as an exanthem of the mucous membrane, analogous to the exanthemata of cutaneous surfaces. M. Gueneau de Mussy believes that he has fully proved the exanthematous character of certain other disorders, such, for example, as hay fever, the gastric and intestinal disturbance which often accompanies urticaria, and probably the pulmonary and gastric symptoms in measles. Whooping cough would seem to have its special exanthem also, and to be further characterized by a special tendency to congestion of the bronchial glands, this latter condition being the immediate cause of the spasmodic phenomena.

The existence of the enlarged glands may be detected, as M. Gueneau de Mussy has previously shown, by careful comparative percussion along each side of the upper sternum, with the finger laid parallel to the axis of that bone, and similarly along the spinal groove from the seventh cervical to the fourth or fifth dorsal vertebra. This gives a difference in the percussion note, and in the feeling of elasticity and resistance; while auscultation reveals more feeble but rougher breathing than natural on the side of the affected glands. In well marked cases the respiration may be even of a blowing character. Deficient expansion resulting from the compression of the main bronchus, or one of its chief branches, by the enlarged glands, may be detected by grasping the base of the thorax at each side, while the patient makes a slight effort of coughing.—*London Med. Record*, Sept. 15, 1875.

On a Case of Pulsating Empyema.

Dr. LORENZO LORENZUTTI relates, in the *Annali Universali di Medicina e Chirurgia* for June, a case of which the following is an abstract:—

A man named Pietra Ceconi, aged twenty-seven, a blacksmith, was admitted into hospital on April 28, 1874, suffering from severe dyspnoea, fever, cough, with rather copious puriform expectoration, and pain in the left side of the chest, which was increased by touch. He had much night-sweat. The illness had commenced about a month previously. He had led an irregular life, being

addicted to drinking and other excesses. His general appearance indicated exhaustion, as if by constant suppuration.

On examining the chest, there was found to be tympanic resonance at the left apex, then absolute dullness down to the costal arch; there was also dullness in the axillary line; behind, there was obscure tympanic resonance in the supraspinous region, and absolute dullness over the remainder of the chest. By auscultation over the region of tympanic clearness, amphoric breathing was heard; over the remainder of the chest there was absence of all respiratory recurrence, with the exception of some moist rhonchus in the lower part posteriorly. The heart was displaced to the left, and its beat was felt in the second intercostal space; from this as far down as the region of liver-dullness was a space about two centimetres wide, which gave a perfectly dull sound in percussion; the heart-sounds were normal. Over this space, and to the left of the sternum, between it and the nipple line, there was noticed frequent pulsation, evidently distinct from the rhythmical beat of the heart. No vocal fremitus nor respiratory movements could be perceived. Measure gave only a difference of two or three centimetres between the two sides, probably in consequence of the œdema which was present. The right lung was healthy, and performed its functions normally. The other organs were healthy; the urine was normal; pulse, 120; respiration, 32. The temperature could not be increased.

On April 30 there was observed a general pulsation synchronous with the heart-beat, affecting the lower two-thirds of the left side of the chest from the sternum to near the vertebral column; but being stronger in the mammary region and along the axillary line. There was also increase of the œdema, and slight increase of the dullness posteriorly.

A consultation was held on May 1. when it was decided that the case was one of empyema; a suspicion, however, was expressed that an aneurism also existed, and it was decided not to operate unless the symptoms became very urgent. Two days later, at another consultation, the patient being worse, an exploratory puncture with Dieulafoy's apparatus was made by Dr. Mensel, when about twenty-one ounces of putrid fluid escaped with force, and the pulsatory movement ceased. More than 100 ounces escaped, and the respiratory movements again became perceptible in the lower intercostal spaces; the respiratory sounds, however, were absent. In the course of a few days the exudation returned, and with it the pulsation; there was also a threatening of perforation at the fifth intercostal space. A drainage-tube was introduced at this point by Dr. Menzel, and was brought out at the sixth space in the axillary line. The cavity of the chest was then washed out daily for nine days, with a solution of permanganate of potash (1 in 100). The patient died in a state of collapse on May 12.

At the necropsy, the left thoracic cavity was found to contain nothing but the contracted lung, and the air which had entered from without. There were some points of adhesion between the parietal and costal pleura, by easily lacerable bands. The lung was in a state of complete atelectasis at the upper part; inferiorly, it contained a little air. In the right lung there was slight bronchial catarrh; on its surface, especially between the base and the diaphragmatic pleura, were large masses of false membrane. There was recent pericarditis, and the whole heart was covered with a fibrinous investment presenting very fine villi; there was scanty fluid effusion. The muscular substance of the heart was rather yellow, and lacerable. There was slight atheroma of the aortic valves and of the ascending aorta.

The pulsation in this case can be attributed to no other cause than the propagation of the movements of the heart through the fluid. Cases of this kind are not frequent; three are recorded by Niemeyer, Jaccoud, and Roncati. Traube, of Berlin, says, in the *Berliner Klinische Wochenschrift* for February 12, 1872: "In the course of last year I have met with two cases, which in some points presented an exception to the ordinary characters of empyema. In both, it could be determined with certainty that the heart was displaced. Nevertheless, there was distinctly perceived on the left side, precisely at the region ordinarily occupied by the heart, a succession of pulsations, synchronous

with the systole of that organ." To explain this, he has recourse to the movement of the heart from right to left, and the relative displacement of the fluid in the same direction. But why does this phenomenon not occur in every case of left pleuritic exudation? Traube asks whether the putridity of the fluid in his two cases may offer an explanation; since this has also been observed by others in the same conditions. He adds that in cases of empyema we see that the costal pleural is destroyed in several places; and without doubt these lesions permit a greater displacement of the fluid. But this does not seem to him to be a sufficient explanation, for the phenomenon under consideration ought to occur more frequently; and he believes that an explanation of the pulsation may be found in the simultaneous presence of a pericardial exudation, which existed in his cases.

In the same periodical, Dr. E. Müller speaks of similar cases, and adds some remarks on the diagnosis. He remarks that aneurisms differ from other pulsating tumours in having perceptible pulsation in a lateral as well as in a vertical direction, while other tumours pulsate only vertically. Empyema, however, may pulsate in all directions; and Müller cites in regard to this the differential diagnostic signs which McDonnell, of Dublin, described in 1844, viz., the dulness over the whole side of the chest, the presence of pulsation only over an external swelling, the absence of murmurs and bruits, and the distinct fluctuation. Müller, however, remarks that, as far as he has been able to observe, the pulsations may extend over the whole chest; that, in cases of aneurism, there may be no murmur or bruit; and he concludes that the diagnostic signs mentioned by McDonnell are unimportant when taken separately, and that their simultaneous presence may give a greater probability to the diagnosis of pulsating empyema. He adds that in empyema the swelling lies more usually to the left, while aneurism tends to the right; and that empyema produces a pulsating swelling or perforation generally below the fourth rib, a situation where aneurism is rarely met with. He further observes that there is not an absolutely certain diagnostic sign of pulsating empyema. With regard to the cause, he cites the opinion of Kussmaul, who maintains that it is not sufficient for the cardiac pulsations to be transmitted to the external swelling, but they must reach its walls without having lost any of their intensity.—*London Medical Record*, Sept. 15, 1875.

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Large Pleuritic Effusions in Phthisis.

M. LEUDET (*Gaz. Hebdom.*, September 3, 1875) read at the meeting of the French Science Association at Nantes a paper upon this subject, which he terminated with the following conclusions: 1. In the course of pulmonary tuberculosis the pleura may become filled with an effusion. 2. While this may be serous, purulent, or hemorrhagic, it is most commonly pseudo-membranous. 3. Pleurisy occupying the entire pleura is more often tubercular in its nature than idiopathic. 4. Patients dying during the existence of these effusions frequently present caverns and tubercles in part arrested, or cretaceous—i. e., the lesions of regressive tuberculosis especially appertaining to irregular phthisis. More rarely the tuberculosis is double, and softened; and, more rarely still, only miliary tubercles may be met with. 5. The tuberculosis is not more extensive and advanced on the side of the effusion; it is even often less so. 6. The pleurisy does not generally induce death by its abundance. 7. Some patients die in a cachectic condition before the complete absorption of the effusion. 8. Two-thirds of these patients are cured of the effusion. 9. The cure is in general slower than in the non-tuberculous. 10. Purulent pleurisy in tubercular patients is susceptible of cure. 11. Abundant effusion does not, for the most part, increase pulmonary tuberculosis, and in general it does not induce a more rapid evolution of tuberculosis in the lung of the side of the effusion than in that of the opposite side. 12. Purulent pleurisy does not seem to accelerate the development of tuberculosis.—*Medical Times and Gazette*, Sept. 18, 1875.

On a Case of Puncture of the Pericardium.

M. VILLENEUVE gives the following details of a case of this kind in the *Marseille Medical*:—

On May 17, 1873, I was called by a colleague to see a child five years and a half old suffering from pericarditis. I found the little patient in a very serious state; his face was swollen and mottled, eyelids swollen, his lips blue and cold, the pulse too weak to be counted. The lower extremities were cold and œdematous up to the thighs; the scrotum was infiltrated. A very marked arching, of the size of the hand, was remarked at the precordial region. This arching was distinctly fluctuating, and presented an undulating movement corresponding with the respiration. This was short and strongly whistling. Auscultation of the anterior portion of the chest gave no results. Neither respiratory murmur nor heart-sound could be heard. Nothing could be heard at the posterior part of the thorax, but the resonance of the whistling respiration and some sibilant rales. According to the account given by the parents of the child, this state was the consequence of a fall on the chest which had occurred two months previously, and after which he began to suffer from dyspnoea and swelling of the legs. The treatment adopted was diuretic drinks, and the application of seven leeches to the precordial region, followed by seven blisters placed one after another on the same place. No improvement, however, resulted from this treatment, and I was called in consultation. I believed the little patient to be dying, and only likely to last a few hours. Not knowing what plan of medical treatment to adopt, I resolved to try what surgery could do. With the consent of the parents, to whom I explained that this expedient was but a forlorn hope, I applied M. Dieulafoy's aspirator at the most projecting point of the tumour, and where it was most fluctuating, and thus removed, by the help of a preliminary vacuum, two syringe-fulls of a perfectly transparent lemon-coloured fluid. When I had removed the canula, the small wound remained open, and a somewhat powerful jet of liquid spurted out of the opening. This arose in consequence of the internal wall of the cavity having been very much thinned by the repeated applications of blisters. Very much annoyed by this accident, I quickly put my finger on the opening, and had some difficulty in closing it with cross-pieces of diachylon plaster, because the child, who began to recover from the asphyxial stupor, cried, threw himself about, and caused a small amount of serous matter to exude from the puncture at every movement. I completed the dressing by a compress, held in its place by a pledget of lint, and a small body-bandage. I could then, by applying the ear to the chest, hear the pulsations of the heart, which were still confused and tumultuous. The pulse allowed me to count 160 pulsations in the minute; the symptoms of asphyxia also gradually improved; and I left my little patient in a very satisfactory state. From that time forward the improvement continued; the œdema gradually decreased, the appetite returned, and the pulse became regular. But it is a remarkable fact that the puncture made by the trocar did not close, and that the pericardial serosity continued to flow copiously and even in jets, at every dressing, which was done twice in the twenty-four hours. After some days the serosity became less transparent, thicker, and, finally, quite purulent; it continued to flow copiously during five months. The patient, however, left his bed, walked, and recovered his appetite. About that time an abscess formed at the level of the wound, and was opened. Only healthy pus escaped from it. This abscess healed up, and gradually the pericardial fistula only yielded a smaller and smaller quantity of pus until the sixth month after the operation, when it closed up definitively. From that time the child regained health, and he is now, as far as can be ascertained, perfectly well.

I should like to draw the attention of my colleagues to the rarity of facts of this kind, and especially to the persistent continuance of the fistula, nearly six months after the operation. Finally, I beg my colleagues to be very careful to ascertain the exact condition of the heart, which appeared to me to be perfectly healthy, and gave no indications from auscultation.—*London Medical Record*, Sept. 15, 1875.

Chronic Aortitis.

M. JOUSSET, in a memoir on this disease, presented to the Académie des Sciences, divides it into two forms; one, painful, known by the name of angina pectoris; and the other very little painful or not at all so, respecting which he lays down the following proposition: "Chronic aortitis is a common affection; it is habitually mistaken for and confounded with an affection of the heart, or with interstitial nephritis. Chronic aortitis sometimes succeeds acute aortitis. In this case all the causes of the latter affection operate; the use of alcohols, tobacco, coffee and tea, are the etiological circumstances which favour the development of chronic aortitis. All the patients in whom I have observed it were gouty or suffered from hæmorrhoids, and were over thirty-five years of age. The principal symptoms are habitual dyspnœa, and from time to time severe attacks of suffocation. These acute attacks have the characteristics of cardiac dyspnœa. The pulse becomes quicker and smaller at the same time, and ends by disappearing. A lypothimic state is present, with cold perspirations, and sometimes complete syncope. During the attacks, expiration is convulsive and prolonged. Insomnia, loss of strength, and anæmia, are the remaining symptoms of aortitis; they lead to cachexia characterized by œdema, albuminous urine, and sub-delirium. Death supervenes by asphyxia, syncope, or uræmic accidents. The physical signs are divers modifications in the aortic sounds, the constant formation of a plateau in the sphygmographic traces, and, at an advanced stage, the increase of aortic dulness."—*London Med. Record*, Sept. 15, 1875.

Treatment of Chronic Dysentery.

DR. HANDFIELD JONES (*Med. Times and Gaz.*, June 19, 1875) gives the details of two cases of chronic dysentery, in the first of which, occurring in a soldier, J. P., aged 24, who had been in India, red gum was ordered to be administered in the dose of 10 grains in a drachm of glycerine and an ounce of water, three times a day. The results were, apparently, most satisfactory, and the patient was sent out in a month, cured. Two months afterwards he was re-admitted with a relapse. The red gum was ordered again, and quite failed. Lead enemata and lead internally had no better effect. He continued to get worse. Ipecacuanha in doses of 5 grains combined with a half a grain of opium produced slight improvement, but this only lasted for a time, and he died in about a fortnight. In the second case, J. K., the patient was 32 years of age, and had also been in India and Africa. The symptoms were well marked. He was ordered simple diet, rice pudding, beef jelly, and the same quantity of red gum and glycerine as in the previous case. No good results followed, though the quantity of red gum was increased to 15 grains for the dose. Turpentine stupes were applied, but after a fortnight, as the patient was no better, injections containing 6 grains of nitrate of silver, and 10 minims of the tincture of opium to 4 ounces of distilled water were ordered. No marked improvement followed, and 5 grains of ipecacuanha were given, and he became decidedly better. A month after his admission a drachm of the liquid extract of ergot was administered in an ounce of water three times a day. On the following day only two stools occurred, and on the next only one, and this continued till his discharge. In discussing these cases, Dr. Handfield Jones remarks that it is always satisfactory when we comprehend the action of our remedies in a case of disease, especially when that disease is a representative one. Now, dysentery evidently represents, in great measure, the large family of catarrhs although there is also something specific about it, and it is prone to become a good deal more than a catarrh. Its chief peculiarity seems to lie in its tendency to affect the "substratum" of the mucous membrane, that layer of nuclei and granular matter underlying the basement membrane of the surface, to which the solitary glands belong, and to which special attention was drawn by Dr. Handfield Jones many years ago in the *London Medical Gazette*. This constituent of the mucous membrane is apt to become infiltrated with

exudation, while the basement membrane and epithelium perish. The causes of dysentery seem to be such as impair or annul the special endowments of arteries and capillaries. Malaria, foul air, excessive heat alternating with chilling cold to the cutaneous surface, are all very capable of producing these effects. One great feature in the dysenteric state, indeed the principal in all but the earliest stages, is the loss of the proper action of the bloodvessels. The arteries are relaxed, or very prone to become so, and the capillaries leaky; and as long as this condition persists, the symptoms, even if they subside for a time, are reproduced by the least provocation. To amend this defect, astringents to restore retentive power to the capillaries, and tonics to promote contractility in the arteries, seem rational remedies. But for their success it is requisite that they shall be of such a kind, and given in such doses, that they do not become irritants. This is a very important limitation of their use, and for want of due regard to it an otherwise suitable therapy may quite fail. In one case, 4 grains of tannin, and opii. gr. $\frac{1}{4}$ quater die, aggravated the dysentery a good deal, but 5ss of tincture of aspic bark ter die, which contains tannin in some peculiar form, quickly cured it. Enemata of nitrate of silver are praised by Trousseau, but they made J. P. worse; so did turpentine stupes, which so often relieve a bronchial catarrh. The different success of red gum in the two cases is noteworthy. In J. K. it was markedly beneficial; the patient would in all probability have thoroughly recovered if he had been kept sufficiently long on the same treatment, and protected from the inclement weather, this too in spite of the existing abscess in the liver. At the time of his second admission he was too far gone to be rallied by any remedies. In J. P. red gum was useless, while ergot was speedily effectual. This seems to imply that the arterioles may be more at fault in some instances, and the capillaries in others. Dr. H. Jones is not aware whether ergot has been much used in the tropics, but it seems a hopeful remedy, and has been found successful by M. Luton, of Rheims (vide *Gaz. Hebdom.*, Oct. 1871). He says not only the hemorrhagic element of dysentery, but the griping colic and fever, were at once relieved. He has tried ergot in some cases of inflammatory lung affection, but not with as much success as he expected. It is more decidedly useful in hemorrhage. The good effect of the ipecacuanha during the exacerbation of the chronic disorder in the second case is well marked. This remedy should always be resorted to on such occasions. It acts, he believes, as a tissue sedative, and takes off that irritability of the bowel which makes it intolerant of astringents and tonics.—*Practitioner*, Sept. 1875.

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Differential Diagnosis of Intestinal Invagination.

In an article in the *Archiv für Prakt. Heilkunde*, Dr. O. LACHTENSTEIN gives a certain number of symptoms serving to differentiate intestinal intussusception of the large intestine from that of the small one:—

1st. Intestinal invagination is rare in the first year of life, and, in fact, in the whole of infancy.

2d. In adults the progress of the invagination of the ileum is more rapid, the phenomena are more marked than in ileo-cæcal invagination, and that of the colon. Chronicity is rare in invaginations of small intestine; it is more frequent in the ileo-cæcal portion, or the colon. Grave symptoms of collapse become manifest more frequently at the beginning of this affection.

3d. *Muco-sanguinolent discharges* are the rule in all invaginations, wherever their seat may be. The author has observed dejections of fecal material of an aspect wholly normal after a diarrhœa, in ileo-cæcal invaginations; he has seen it only once, in an adult, in invagination of the colon.

4th. *Melæcorism* is a very variable symptom; usually it is wanting in ileo-cæcal invaginations. In invaginations of the descending colon, it is generally seen to occupy the transverse colon; afterwards it extends over the whole abdomen. In invagination of the ileum, it is found occupying a limited area, especially the central part of the abdomen, without invading the lateral or epigastric regions.

5th. *Tenesmus* is rare in invagination of the ileum; it is frequent in that of the colon and the ileo-cæcum.

6th. In invagination of the ileum no *tumour* ordinarily exists, or else (if there be one) it is seated in the centre of the hypogastrium; when it is seated in the cæcal region, especially if it be stationed for some time, it shows an invagination of the ileum or the ileo-cæcum. The extension of the tumor, when it appears suddenly and corresponds to the course of the colon, indicates most strongly an ileo-cæcal invagination; less so one of the colon; and excludes invagination of the ileum. The situation of the tumour in the left lateral region of the abdomen indicates an invagination of the ileo-cæcum or of the colon. We can never feel the tumour in the rectum, and prolapsus of it never appears in invagination of the ileum without complications. Changes in the consistence, the appearance and disappearance of the tumour, are seen particularly in invagination of the ileo-cæcum.—*Chicago Med. Journ. and Ex.*, Oct. 1875, from *La France Médicale*, No. 47, 1875.

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Intestinal Diseases healed by introduction into the Intestinal Tract of large quantities of Fluid.

Prof. MOSLER, of Greifswald (*Memorabilien*, July, 1875) has largely experimented on animals and men on the effect of copious injections into the colon. By the pressure of a fountain syringe he has introduced from one to five quarts of warm water, and has never seen any ill effect from it if only the water is introduced slowly and gradually; while the patient is lying on his back the water thus injected is forced up as far as the ileo-cæcal valve and sometimes even beyond it into the ileum. The professor considers these copious injections as the best means of effectually cleansing the mucous membrane of the bowels from irritating substances and of applying disinfectants and astringent remedies over a larger surface of the mucous lining. During the summer of last year he obtained very favourable results from their use in cholera infantum. Even the smallest infants while held on the lap of a nurse would bear them well. As disinfectants, permanganate of potassa and salicylic acid were used. One and one-half drachms of the salicylic acid were dissolved in two quarts of warm water; and of the permanganate of potassa, he dissolved one drachm in two ounces of water and added two tablespoonfuls of this solution to the quart of warm water. This topical treatment proved very gratifying in the various forms of dysentery; a few "washings" removed the tenesmus and diminished the number of stools. In typhoid fever they seemed to lessen the tympanites and the frequency of evacuations, and from his comparative observations of similar cases, some of which were treated by copious injections while the others were not, the doctor is inclined to believe that the disease takes a milder course under the local treatment. And the doctor has also convinced himself that the copious injections of warm water greatly insure a complete expulsion of tapeworms which have previously been acted on by the well-known internal medicines. In support of this claim he gives the history of several cases, of which we will quote the following: A farmer, aged 23 years, having complained for some time of much headache, drowsiness, weakness, and dislike to work, discovered pieces of a tapeworm in his stool on July 5, 1874, and July 7 he was admitted to the hospital. In the afternoon of that day he took castor oil and in the evening his colon was washed with one and one-half quarts of warm water and milk. July 8, at 7 A. M., another dose of castor oil; at 8, 9 and 10 A. M., ten pills of ext. granat. (R. Ext. granat. spirit. Zij, Pulv. rad. altheæ, q. s. ut f. pilule, No. 30.) At 12 and 3 P. M., copious injections; but the water returned without the worm. At 4 P. M., however, the links began to come out, and the nozzle of the tube was then carefully introduced into the anus and one and one-half quarts of tepid water injected, which the patient was enjoined to hold as long as possible. Half an hour later, the water was discharged slowly and with it a coil of tapeworms that on a closer examination proved to contain three complete specimens of *tænia medio-canellata* with their heads.—*Chicago Med. Journ. and Ex.*, Oct. 1875.

Presence of a Bruit of Fluctuation and Metallic Tinkling in Abdominal Tumours.

M. LABOULBÈNE. Physician to the Hôpital Necker, records (*Archives Gén. de Méd.*, Sept. 1875) two peculiar cases of abdominal tumour in which a bruit of "hydro-aerie fluctuation" was met with, accompanied with metallic timbre. The *résumé* of the first case is as follows: A woman, æt. 50, enjoying habitually good health, and the mother of nine children, had noticed of late a swelling on the left side of the abdomen. When admitted, on the 7th of January, 1875, a smooth tumour, without prominences, was found to occupy the left flank in the ovarian region, having the dimensions of an adult head. Pressure caused pain. The skin had its normal appearance. It could be displaced by grasping with the hands without difficulty, but no particular bruit was elicited by brusque movements from right to left. Fluctuation, without being well marked, could be detected; percussion was dull over the tumour, and elsewhere resonant. Fifteen days after, the tumour grew more prominent, and became adherent to the skin, which was now slightly red at the most prominent point. Dull pains were complained of. Percussion now gave a sonorous note, and succussion made brusquely, grasping the tumour between the two hands, produced a noise of fluctuation similar to that caused by shaking a bottle half or three parts full of water. Moreover, on rapidly shaking the tumour three or four times, whilst the ear was applied over it, the noise of fluctuation was noticed to be associated with a metallic timbre. On the 25th of the month Vienna paste was applied to the skin where it seemed thinnest, and over the most prominent part of the tumour. In the evening of the next day an opening formed, and a large glassful of purulent, greenish, not thick, discharge escaped, offensive in smell, but not putrid, and accompanied with gas. Great relief followed the escape. The fluid on examination exhibited only the leucocytes of pus.

The treatment consisted in the application of chlorinated compresses, the sac being allowed gradually to empty itself; a drainage tube was also inserted. On the 15th of February the patient was convalescent and sitting up, the sero-purulent discharge through the tube having quite ceased. A weak injection of iodine was introduced into the opening, but it immediately escaped, thereby showing the absence of any sac. On the 23d the tube fell out spontaneously. On the 24th of March a careful examination showed the existence only of a small, hard tumour, of the size of an egg, and dull on percussion. Pressure upon it caused slight uneasiness. At the end of the month she was discharged cured, and has since continued well.

When first under treatment the opinion of the case was that it was one of ovarian disease, but subsequently it was decided to be a cyst situated between the posterior aspect of the abdominal wall and the coils of intestines, and in close propinquity to the left ovary. The presence of gas within it was attributed, not to any fistulous communication between its interior and the bowels, but to its production by decomposition of the contained purulent liquid.

The second case was that of a woman, æt. 27, who had never had a child, and had enjoyed good health. In 1870 she perceived her abdomen enlarge, but during the two following years, as she was free from suffering, she continued her employment, and it was not until the end of 1872 that she entered the hospital (Hôtel-Dieu). Here she was punctured ten times, and on six occasions iodine injections were resorted to after the tapping. The quantity withdrawn varied from one to four litres on the different occasions. According to the patient's account the liquid was always thick, and on the last tapping was of a dirty-gray colour. When admitted into the Hôpital St. Louis (in October, 1874) it was with the desire of having the tumour removed. The tumour occupied the left side of the belly, was movable readily, had an irregular surface, was slightly painful on pressure, and obscurely fluctuated. The skin was not adherent, but was very movable over it. Percussion over the tumour was dull. The uterus was small. The diagnosis was a multilocular ovarian cyst.

Succussion at first produced no special bruit; but some time after her ad-

mission the tumour became sonorous, from the presence of gas in its interior, and the hydro-aeric wave, with metallic tinkling, manifested itself. The patient grew weaker day by day, and ultimately died towards the end of November. Unfortunately an autopsy was interdicted, but a trocar was thrust into the tumour and gave vent to excessively fetid gas, to sero-purulent fluid, and to a grumous, white matter.

With respect to the production of gas in closed sacs, M. Hérard had previously noted three remarkable instances of such an occurrence—the first, in a case of empyema and pneumothorax without puncture of the lung; the second, a case of enormous dilatation of the left kidney, which contained pus and gas, and had no communication with the external air; and the third, an ovarian cyst, which suppurated, and was occupied with pus and gas without any external communication. In this last case the hydro-aeric fluctuation with metallic tinkling was observed, but it should be noted that the sac had been punctured on three occasions. Demarquay, in his work on “Medical Pneumatology,” refers to other cases.

In conclusion, M. Laboulbène concurs with Hérard that it must be admitted, on the direct evidence of facts, that the noise of succussion in some tumours, and the bruit of “hydro-aeric” fluctuation with metallic tinkling in others, may be perceived in not a few abdominal tumours, and that such phenomena may occur without communication between their interior and the external air.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

Amyloid Disease of the Liver without preceding Purulent Discharge.

Dr. HAYDEN exhibited to the Pathological Society of Dublin (*Dublin Journal of Med. Sci.*, Sept. 1875) a case of this. The subject of it was a man aged twenty-six, a pipe-maker by trade, and of temperate habits, who was admitted into hospital on the 6th of this month. He was then deeply jaundiced, his face and whole body being of a deep lemon tint. The history I obtained of his illness was the following: He had enjoyed good health up to ten months previously; never had syphilis, caries, or chronic purulent discharge. After exposure to wet and cold, ten months previously, he felt very unwell, and two months later he became slightly jaundiced. At the date of admittance he exhibited jaundice of a very decided character, as already stated. The liver was then manifestly enlarged. He had been subject to occasional attacks of diarrhoea, and this whilst he was in the hospital was the most troublesome symptom. On the 12th, having been out of bed every day previously, he was attacked with pain in the right side, and on the following day all the signs of pleuropneumonia were established. The lung was solid from base to apex. The urine was deeply stained with bile pigment; its specific gravity was 1010, and it contained a great deal of albumen. He died in the course of a few days. The liver was found to be greatly enlarged; it exhibits the amyloid change; there is a great deal of pigment of a deep green tint dispersed through it. The kidneys are in a similar condition, and considerably enlarged. The right lung is very voluminous, and both lobes are perfectly solid; it is the third stage of pneumonia. The case affords a notable exception to the doctrine propounded by Dr. Dickinson, that amyloid disease of the liver is always associated with chronic purulent discharge, or disease of the bones.

Splenic Tumours treated by Injection.

Although portions of the spleen, and also the entire spleen, have been successfully removed when exposed by wounds in the side, it has not so happened when extirpation has been practised for the removal of a diseased spleen. Of nine cases on record the whole proved fatal; consequently the removal of splenic tumours by operation can scarcely be held justifiable.

The success which has attended an injection of iodine in glandular tumours suggested to Prof. MOSLER (*Deutsches Archiv*, March, 1875) the expediency of injecting tumours of the spleen, and to test the practicability of the process

he injected iodine into the spleen of several dogs and rabbits. He succeeded well, and found the operation to be unattended by intense peritonitis. Subsequently he has had a case of splenic tumour in a woman, into which he injected, not iodine, but a weak solution of carbolic acid in the first instance, and afterwards dilute Fowler's solution. The patient was a married woman, *æt.* 33, the mother of two children, the youngest being eight years old. Four years before coming under his care she had intermittent fever, which lasted a year and a half, and exhibited much irregularity of character. Two years previously she had typhoid fever, and had never been well since, suffering with swellings in various parts of the body. A year before the dropsical swelling extended to the belly, and she became quite invalided by various abdominal disorders. She was admitted into hospital on 20th of January, 1874. The abdomen was found distended, especially on the left side, where the spleen could be readily felt. Percussion showed it to extend from above downwards fifteen centimètres, and transversely thirteen. The liver was also enlarged, but not to a proportionate extent. No glandular tumours detected; the lungs appeared healthy; there was a cardiac murmur; the urine normal. The blood showed no augmentation in the proportion of the white corpuscles.

The treatment consisted in the administration of steel, a saline aperient, and the subcutaneous injection, twice a day, of a solution of the amorphous hydrochlorate of quinine (one part to five of water). After each hypodermic injection also an ice-bag was applied for several hours over the spot injected, whereby Mosler considers inflammatory action to have been prevented. After persevering in this course of treatment for sixteen days, a marked reduction of the spleen was noticed, the two dimensions having fallen to eleven and eight centimètres respectively. Encouraged by this, the treatment was continued, and, in spite of many uncomfortable symptoms, was carried on until the 21st of March—that is, for the space of three months—when, finding no further progress, Mosler ceased with the quinine injections, and determined to deal locally with the diseased viscus.

With a view to this he applied an ice-bag over the spleen for several hours, with the object of exciting contraction of the spleen and the reduction of the blood in its tissue. This done, he pressed the spleen as firmly as possible forwards against the abdominal parietes, and then injected twenty-two drops of a two-per-cent. solution of carbolic acid. The greater resistance of the spleen, after the piercing of the external tissues, was felt by the instrument, and the passage of the injection was attended by violent pain. This last occurrence led the operator to inject subcutaneously in the same spot two centigrammes of morphia, and to keep the ice-bag applied for the next twenty-four hours. No abdominal distension and no elevation of temperature followed, and on the 23d of the month the pain had ceased, and the patient sat up the whole day. She was treated with iron and quinine, and in the following month (April) was in tolerable health. Soon after the injection Mosler satisfied himself there was some reduction in size of the spleen; but subsequently it remained stationary in its dimensions, and the quinine and iron seemed to exert no influence upon the malady. Mosler therefore resolved again to inject the spleen, but on this occasion to use a solution of arsenic, employing one part of Fowler's solution to ten of water. The operation was conducted in the same fashion as before, but the pain was less, and the ice-bag applied for only twelve hours. Indeed, no reason against a repetition of the operation appeared.

In the middle of May the patient exhibited distinct improvement; the anæmic cardiac murmur had disappeared; the spleen had retreated backwards, and now measured ten centimètres by five. In June there was a progressive improvement in health, coupled with further reduction of the diseased organ.

As Professor Mosler remarks, the foregoing case proves the feasibility of injecting the substance of the spleen. He would enjoin before operation the use of measures to reduce the blood contained in the tissues of the organ, and can advise nothing better than quinine, particularly when given hypodermically, and over a considerable interval. Several hours before the operation the ice-bag should be applied. The injection should be attempted only in those cases where the spleen lies immediately, or else can be pressed close,

beneath the abdominal parietes. Hunter's experiments induced Mosler to use the dilute carbolic acid, as they went to show that this substance could be introduced in a very dilute form into the splenic parenchyma without ill consequences. He feared to use a solution of quinine on account of the violent irritation of the tissues caused by that substance. The subcutaneous injection of arsenic had been found by himself useful in splenic tumours, and consequently he resorted to it in the above case. Czerny has also employed arsenic successfully in the way of injection into the substance of malignant lymphoma of the glands. Lastly, it may be argued that a further reduction in the dimensions of the splenic tumour of the woman operated upon may be attempted by future operation; and it is very desirable that this mode of treatment be tried in suitable cases of such very intractable disease.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

On Recurrent Zona.

Dr. KAPOSI [Moritz Kohn] relates in the *Wiener Medizinische Wochenschrift* (No. 22) the occurrence of this disorder for a *third* time in the same patient. The two former attacks were narrated in the same journal last year (Nos. 25 and 26), and an abstract was given in the *Monthly Abstract* for February, 1875.

The patient, Marie Poje, a hospital nurse, was first attacked by severe zona of the left arm and shoulder in the spring of last year, and recovered by July; two months later a similar eruption appeared on the right arm, and on January 15 following the third began. Numerous scars, some slight and pale, others darkly coloured, and others again thick, large, and almost cheloid in appearance, the remains of the first attack, were seen scattered over the right arm, shoulder, and breast. The new eruption consisted of two large circular patches which occupied the dorsal aspect of the right forearm from the wrist to a third of the distance to the elbow. That covering the ulnar side was red, swollen, and smooth [erythema exudativum]; that on the radial side was brown or yellowish in the central part, while the edge was of a bright scarlet colour. Both patches were painful, and the patient was somewhat feverish. Next day the radial disk had grown much darker and flatter; the other one, which had become the site of some subcutaneous hemorrhage, was also dark and depressed, but the red edge was now covered with eight or ten clear vesicles, each as big as a hempseed. Besides these two large patches, there were now apparent two streaks of red and yellowish-green (hemorrhagic) discoloration, running obliquely towards the elbow on the extensor surface of the same forearm.

January 17, 1875. The first patch was dried up; the second had extended further, with a fresh outbreak of vesicles. The two streaks which appeared on the previous day were also becoming depressed, dark, and hard, but a fresh red spot had appeared close to the elbow, preceded by pain.

18th. The two streaks on the forearm were now surrounded by a red edge, which was covered with vesicles, and fresh red spots had appeared between the old ones. These were now themselves covered with umbilicated scabs, corresponding to the previous vesicles. The area of the affection had not spread, and the patient's general condition was more comfortable.

20th. The only fresh eruption was a crowd of vesicles on the patch (now as large as half-a-crown) upon the elbow. The other parts were undergoing involution.

21st. Near the wrist two fresh, red, and painful patches had appeared, each with a discoloured centre from ecchymosis. No fresh vesicles had formed, and those of the previous day were drying up like the rest.

22d. New vesicles appeared on the elbow. Scabbing was going on elsewhere. From this date no fresh eruption appeared, and the crusts gradually dried up and fell off, leaving a red and depressed surface free from ulceration. On February 15 the patient was well. The treatment was expectant throughout.—*London Med. Record*, September 15, 1875.

Verruca Senilis.

Under the above title, Dr. I. NEUMANN, of Vienna, has lately described a skin disease which occurs in elderly people, and which consists in the development of numerous warty tumours, especially on the back and chest. They have a rusty brown or even a deep black colour, and they give rise to considerable inconvenience by becoming excoriated and ulcerated by the friction of the under-clothing. The tumours consist principally of numerous layers of epidermic cells, massed either on a smooth surface or else on the remains of papillæ. Microscopically, these cells exhibit no abnormal appearances. The rete mucosum is, however, narrower than usual, and contains much pigment; the hair follicles are dilated with a mass of smegma, downy hairs, and epidermic cells; and the sebaceous glands are enlarged and filled with dried secretion, and their opening is either obstructed or obliterated, so that they project above the surface of the skin as pale red wart-like tumours. The verruca senilis therefore differs materially from an ordinary wart, both in the large share which the epidermis has in its formation and also in the non-implication of the papillæ; and for this reason Neumann proposes "keratosis pigmentosa" as a more appropriate name. The treatment he recommends consists in scraping away the epidermis, and then applying soft soap, dilute carbolic acid, or else a solution of iodine and iodide of potassium in glycerine.—*Medical Times and Gazette*, August 28, 1875.

Papular Erythema related to Rheumatism.

M. COULARD (*Archives Générales de Méd.*, Jan. 1875) singles out this form of skin eruption from among the several noticed in rheumatism as being pathologically associated with this malady, and as an indication of a rheumatic diathesis. Admitting the distinction between rheumatic and rheumatoid pains, those accompanying the erythema in question belong to the former. Rheumatoid pains are a feature of hysteria.

True rheumatic pains do not occupy an entire joint, but certain spaces only, which also are especially painful on pressure.

Hardy regards the connection of erythema and rheumatism as accidental; but M. Coulard opposes to this opinion his observation of twenty-one cases, in twelve of which articular rheumatism in an acute form had preceded the eruption, and in the other nine had been manifested also beforehand, but with less intensity.

The eruption, which may be more or less general, is described as occurring in patches of the size of the hand, or of a five-franc piece, separated by narrow strips of healthy skin. These patches are more or less inflamed in the centre, according to the date of their appearance, the oldest being pale in the middle, and surrounded by a wavy erythematous ring of a bright red colour like that of scarlatina. Pressure disperses the colour, but this reappears on its withdrawal.

The eruption is made up of minute red points, uniform in colour, and sometimes accompanied by heat of skin or itching. Some of the rings are confluent, and so give rise to a ribbon-like diffusion. Varieties occur in the shape of the patches, and in their prominence and colour. Usually they are not at all elevated. The colour occasionally is more dusky, and even livid.

The eruption may occur either before, during, or after a rheumatic attack. In the first case its onset is without prodromata, its average duration from five to six days, and its appearance accompanied by heat and itching, but with no fever. In the second case the general phenomena are mixed up with those of the rheumatic fever; but usually some special features are noticeable, such as more heat of skin, dyspnoea, acceleration of pulse, etc. In no case has the eruption been attended by diminution of pain, but rather the reverse. Lastly, where it has appeared after an acute attack there have been more or less severe articular pains. The duration of the eruption is so variable that no rule can be assigned for it. The only general rule (but even this is open to exceptions) is, that the duration is in direct relation to the extent of the rash.

M. Coulard will not venture on the statistics of the frequency of its occurrence in rheumatic cases. He considers that these cannot be gathered from the recorded histories of cases, since those histories are taken with the view of developing facts regarding the ordinary phenomena of rheumatic fever, among which this form of erythema has not been reckoned. Moreover, he will not undertake to decide if this erythema be peculiar to rheumatic subjects, but only go so far as to say that its coexistence with rheumatism is so common, that where it is met with a rheumatic diathesis may be suspected.

It is worthy of notice that many years ago the late Dr. Begbie, of Edinburgh, in his volume of essays, associated erythema nodosum with the rheumatic diathesis.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

Surgery.

Removal of Tumours.

Mr. JAMES SPENCE, in his recent Address in Surgery (*British Med. Journ.*, August 14, 1875), says: "Experience derived from the study of the vital manifestations and tendencies which characterize growths as divided into the 'simple and malignant,' enables the surgeon to judge of the propriety of interfering or abstaining from operation in certain cases. Thus if, from the history and examination of the case, he satisfies himself that the growth belongs to the simple class, he knows that, from the limitation of such tumours, he can be sure of effecting its complete removal, although its anatomical relations may be intricate and important; whilst, from the absence of constitutional cachexia, the prognosis of the result is favourable. Until a comparatively recent period, it used to be laid down as an axiom that removal of tumours of the neck situated under the sterno-mastoid muscle should not be attempted, and we were directed to the failure in result when such attempts had been made; complete removal of the growths having been found impossible, and their rapid reproduction being the consequence. In a case of an enormous, deep-seated tumour of the neck which was sent to my care from Lancashire twelve years ago, the objections to which I have alluded were pressed against interference by the late Professor Syme, and I was referred to cases in which John Bell and Mr. Liston had been forced to leave portions of the tumours, owing to their connections; but I had examined into these cases, and felt no doubt, from their history, that they were both of malignant character, and, in fact, that even in these cases the tumours were all but removed. I pointed this out as an encouragement for operation where the tumour was of simple character, and therefore limited in its deep relations; and, relying on the character of the tumour, I decided to remove it, and did so successfully. I suppose no surgeon would now hesitate to operate in such cases; but interference with deep-seated malignant tumours is a very different matter, and, I think, should be avoided. There is another feature in the characteristics of tumours in which I have great faith, viz., that a growth originally of simple character, as evidenced by its originally slow development, consistence, etc., however much it may at a later stage degenerate locally and manifest many of the symptoms of malignancy, never does become truly malignant, constituting a diathesis, so to speak, as in cancer or encephaloid growths; and that, therefore, we may remove such tumours with every prospect of success under circumstances where it would be unwarrantable to interfere with the growth truly malignant. In the huge osteo-fibroma of the bones of the forearm which I removed nearly thirty years ago, you have an instance of what I state. It had at first grown slowly, and without bad effect on the health; but latterly, from the pressure caused by its bulk and consistence, the soft parts had ulcerated; local applications had increased irritation, until at last it assumed a fungating surface,

wasting the patient by the pain and the discharge. When I saw her, she was considered a hopeless case. She was pale; the skin was of a yellowish tinge; and she was so anæmic that she appeared cachectic; and there were enlarged glands in the axilla and above the clavicle. But, trusting to the original character of the growth, I amputated the arm at once, and in less than three weeks she was able to be out; all bad symptoms disappeared, and for many years she continued to enjoy the most perfect health, and, as far as I know, is still alive and well. I point to these cases as examples of the value to the surgeon of the classification of tumours founded on the study of their clinical history and vital manifestations; but at the same time I am far from undervaluing the study of the structural anatomy and development of tumours in its proper place."

Coexistence of Lupus and Carcinoma.

The interesting fact of the occasional supervention of cancer upon lupus has received fresh confirmation at the hands of Professor E. LANG, of Innsbruck (*Vierteljahr. für Dermatol. u. Syph.*, 1874, p. 165), who records a well-marked instance. He believes that many cases previously recorded were simply examples of the extension of the original lupoid affection, which would render the number of cases in which the combination occurs very limited. Of these cases two divisions may be made—viz., those in which the cancer springs up on the site of lupoid scars, as it frequently does on simple scars, and those in which both the cancer and lupus extend *pari passu*. The case which forms the subject of his paper was one of the latter group. The patient was a young man twenty-five years of age, admitted into Professor Heine's clinic at Innsbruck in March, 1873, who had been the subject of lupus from the age of about three years, the disease commencing on the right side of the face and the left arm, gradually extending to the forehead, left side of face, and forearm. When admitted the face was almost entirely converted into a smooth, hard, somewhat reddened cicatrix, here and there covered by layers of exfoliating epidermis, and bordered by well-marked lupus nodules. The right lower eyelid was everted and the right cornea opaque; the cartilaginous part of the nose was absent. Between the upper lip and right lower eyelid was an ulcer the size of a finger-nail, with sharp undermined edges and irregular base. This ulcer had commenced in the previous autumn, and was accompanied by enlargement and softening of the lymphatic glands behind the right ear and in the neck. At the bend of the elbow was a lupoid cicatrix fringed by nodules, and another with tubercular eruption on the dorsum of the hand and fingers. Many scars occurred elsewhere on the trunk and limbs. The patient had been under treatment at various intervals for ten years. Professor Lang thought that the ulcer on the cheek was carcinomatous, although its margins were not indurated or everted. It rapidly extended whilst under observation, the lymphatic glands also breaking down. Microscopical examination of the discharge from the ulcer revealed numerous epitheloid cells, some being large and round with thick cell-walls, others multi-angular, or spindle-shaped, and various shapes presenting grooved nuclei (*Furchungskerne*), which Lang and Gussenbaur have shown to be characteristic of rapidly growing cancer, a character presented by the nuclei of cells of all rapidly growing organisms. Before death, which took place two months after the patient's admission, there was widespread ulceration of the whole cheek, laying bare the mucons membrane, and of the side of the neck over the diseased glands. Post-mortem, secondary nodules were found in the pleuræ, left lung, and liver. The microscopical characters of the ulcer on the cheek are most fully detailed. They may be summed up here as presenting the characteristic lymphoid elements of lupus, arranged mostly in the superficial parts, but penetrated by ramifying "tubes" of cancer cells in the deeper layers. The small round cell forms of the lupus contrasted markedly with the large epitheloid cancer elements. The stroma of cancer was, as it were, formed by the lupus cells; but in no part was any transition between the two varieties of cells to be seen. From the disposition of the cancer cells it is concluded that they mostly had found their way from the blood and lym-

phatic vessels, some sections showing appearances exactly as if vessels were filled by these cells. Although he has frequently found overgrowth of the cellular elements of the walls of vessels in cancer, yet he has never traced a direct conversion of them into cancer cells. The paper concludes by attributing the terribly rapid evolution of cancer, when grafted on lupus, to the loose and soft nature of the lupoid tissue, the rapid disorganization of the new growth being aided also by the low vitality of cancer cells—still more diminished by the slight nutrient value of the lupus material forming the stroma of the former.—*Lancet*, Oct. 2, 1875.

On the Occurrence of Carcinoma after Lupus.

In a paper read before the Medical Society of Berlin, and reported in the *Berliner Klinische Wochenschrift*, No. 24, 1875, Baron von LANGENBECK asserts that he does not acknowledge the supposed identity of lupus and carcinoma, and that he has been led to regard them as two distinct diseases. In some rare instances carcinoma may be developed on portions of skin affected with lupus, but never except where the lupous ulceration has gone on for many years and resulted in not quite complete healing, or has left cicatrices which are subjected to prolonged irritation and inflammation. The occurrence of carcinoma on lupous portions of skin has no more significance than its far more frequent occurrence in cicatrices left by extensive burns of the face when these cicatrices, as may be those of lupus, are the seat of much irritative mischief. The clinical aspect of lupus differs much from that of cancer of the skin, and especially in the respect that the former disease may be cured by giving internal remedies, Zittmann's decoction, for instance; whilst, as is well known, cancer never yields to such treatment. Of very many cases of lupus which he has observed, Baron von Langenbeck can recall to mind but three only, in which epithelioma was subsequently developed. All these patients had suffered early in life from lupus of the face, which, after long-continued ulceration, destroying much of the skin of the cheek, and portions of the nose and ear, had resulted in the formation of a cicatrix. The first case was one of a woman, aged forty years, who, during her period of puberty, had been affected with lupous ulceration of the skin of the cheeks, nose, and upper lip. This ulceration, after partial destruction of the nose, terminated in the formation of a cicatrix which remained sound for fifteen years, at the end of which interval a small warty growth made its appearance near the remaining portion of the nose. This growth increased in size, involved the whole portion of the nose and upper lip, and finally sprouted out into a large cauliflower-like tumour made up of soft granulations. The subject of the second case was a man aged fifty-nine years who, from childhood up to his thirtieth year, had suffered from lupus of the face. The ulceration had involved the right cheek, and caused extensive destruction of skin. In the year 1875, the previously sound cicatrix presented a tumour, which spread rapidly over a large portion of the right side of the face. The third case was one of a man, aged sixty-nine years, who, in 1865, was first attacked with lupus, which commenced in the right cheek, and subsequently spread over the nose and upper lip, and terminated in indurated and tuberoso thickening of the integument. Eight years after the first appearance of the lupus, the apex of the nose presented a small tumour which speedily ulcerated, and then rapidly increased in size and involved the whole nasal organ. Baron von Langenbeck does not agree in a statement recently made by Dr. Lewin, to the effect that cicatricial contractions are characteristic results of lupus. This disease may result in cicatricial contraction when it occurs in parts where the skin is freely movable; and ectropion of a lower eyelid, eversion of a lip, and narrowing of the oral aperture, may occur after lupous ulceration, though not less readily than after a severe burn or any other cause of destruction of the integument of this region. But there are certain forms of integumentary cancer, which, with extension of the disease and infiltration and ulceration of the affected parts, give rise to dense cicatricial formations, and so cause severe distortion. In a case of slowly spreading cancer of the cheek, the corresponding angle of the mouth, and also of the

nose, may be dragged outwards and upwards as far as the malar bone. In one variety of cancer of the skin there is more or less formation of large corneous masses of epidermis, and sometimes, though rarely, *cornua humana*, several centimetres in length, are found at or about the cancerous part.—*London Med. Record*, Sept. 15, 1875.

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Notes on the Modern Methods of Extracting Cataract.

Dr. C. B. TAYLOR, of Nottingham, in a paper read at the recent meeting of the British Medical Association (*British Med. Journal*, Aug. 28, 1875), said that since patients suffering from cataract were operated upon by extraction, no method, when successful, had yielded more brilliant results than Daviel's process of removing the lens by making a flap of one-half of the cornea. The fatality, however, attending this operation, even in the most competent hands, had led to its abandonment, and the substitution of various alternative measures. One of the first of these was advocated by Mooren, who proposed to avoid prolapse of the iris by excising a portion of this membrane some weeks prior to the removal of the lens. This rendered the extraction much safer, but it involved two operations, and the risks attendant upon the large flap remained; hence Schufte began to extract through a small linear incision, lifting out the lens with a spoon; this was abandoned for the more scientific methods introduced by Von Gräfe and the author simultaneously. [See original paper by the author in *Ophthalmic Review*, 1865.] These methods reduced the immediate loss from upwards of ten per cent. to about three per cent., and diminished the partial failures one-half. The pupil, however, was sacrificed, and in order to combine the advantages of a perfect pupil with the safeguard of an iridectomy, the author excised only a small portion of the periphery of the iris, leaving the pupil untouched. This operation yielded excellent results in the author's hands in upwards of thirty cases, and had been highly commended from results in his own practice by Mr. Brudenell Carter. The process, however, was delicate and tedious. To avoid the flap, retain the advantages of a linear incision, and still save the pupil, Dr. Kuchler of Darmstadt extracted through a wound made directly across the centre of the cornea. Mr. Bader of Guy's Hospital also practised a similar incision, only a little below the pupil; and Mr. Liebreich made one a little lower still. Dr. Vincente Chiralt, Lebrun, and Warlomont had adopted, in succession, exactly the same form of incision as Mr. Liebreich, but placed it above the pupil. The author had nevertheless obtained excellent results in some cases with both the lower and upper forms of incision; and his experience had been, that the nearer the wound approached the corneo-sclerotic junction, the less risk there was of any of the evil results enumerated above. After many trials, and a careful study of numerous cases, both in this country and on the continent, he concluded that the safest form of incision was a transverse one at about the upper third of the cornea. At first, a portion of iris was excised as a part of the operation; but, subsequently, the author proposed to dispense with the iridectomy in certain cases; and afterwards, in consequence of the greater facility and consequent diminished risk attending the various steps of the operation, a section at the lower third of the cornea was adopted. In this way a shallow slit-like flap was formed, comprising only one-third of the cornea, and lying in the corneo-sclerotic junction. This permitted the ready exit of the lens through the natural pupil, and left no trace afterwards; being close to vascular tissue, it healed rapidly; any prolapse of the iris was readily replaced at the time, and if the pupil were maintained in a contracted state by the instillation of Calabar bean, the prolapse did not return. The wound healed in twenty-four hours, after which atropine might be used if desirable. The operation was singularly safe, and successful as to the appearance of the patient and the power of vision.

Tracheotomy in Cases of Impending Suffocation by Pressure on Trachea or Laryngeal Nerves.

In his recent address, Mr. SPEECE (*British Med. Journal*, Aug. 14, 1875) drew attention to two classes of cases in which this operation is sometimes performed, as affording temporary relief from suffocative paroxysms or impeded respiration. "I mean (1) cases of aneurism or tumours pressing upon the laryngeal nerves, causing spasm of the glottis; and (2) aneurismal tumours of the aorta or innominata, impeding respiration by direct pressure on the trachea at the root of the neck. In the former class of cases, I consider that the operation is not only warrantable, but advisable, or even imperative, because it gives relief from impending suffocation, and also alleviates conditions which tend to increase the aneurism, or even to hasten its rupture; so that tracheotomy prolongs life with comfort to the patient. In the second class of cases (aneurismal tumours at the root of the neck, pressing directly on the trachea), I cannot see the principle on which the operation is recommended. In such cases, the tumour is lower down than where we can open the trachea; and if we use a tube long enough to pass beyond the aneurism, we are in great risk of rupturing the sac, which generally, in such cases, presses upon, and causes absorption of, the tracheal fibro-cartilages, and projects the mucous membrane. Indeed, as pathological specimens show, the tracheal textures become incorporated, as it were, with the sac, and the aneurism generally thins and tends to ulcerate towards the trachea. Hence I cannot see how an opening in the trachea on the distal side of the impediment can relieve the breathing, whilst there is very evident risk of killing the patient by wounding the projecting and attenuated sac in opening the trachea, or rupturing it in trying to pass the trachea-tube beyond it. Here is a preparation from a case in which I made a very narrow escape from being involved in a most unpleasant predicament. I was asked to see a lady who had long suffered from bronchitis and asthmatic attacks, and in whom laryngeal symptoms seemed to indicate commencing œdema glottidis. As the medical gentleman informed me that the late Dr. Begbie had been seeing the patient, and as I understood that the laryngeal symptoms were not very urgent, I suggested that Dr. Begbie should be first asked to see the patient, and if he considered tracheotomy advisable, I would come and operate. I heard nothing further until, meeting the medical attendant a day or two afterwards, I inquired about the case, and was informed that, after Dr. Begbie had examined the patient generally, he proceeded to examine the throat and mouth by gently depressing the tongue; this caused retching, followed by a fearful gush of arterial blood, which proved instantaneously fatal. If I had operated, the insertion of the tube could scarcely have failed to have ruptured the sac, and I leave you to conceive the situation. I think I have said enough to show that I am decidedly opposed to operation in cases of this latter class. But should any one be inclined to operate, I would advise the use of a large-sized, bulbous-pointed, soft gum catheter, with an enlarged opening, to pass beyond the tumour, instead of the metallic tube."

Case of Gonorrhœal Epididymitis occurring before the Appearance of the Discharge.

Dr. FRED. R. STURGIS, Clinical Lecturer on Venereal Diseases in University of City of New York, reports (*Medical Record*, Oct. 16, 1875) a case of this, which is interesting from the fact that the epididymitis preceded the urethral discharge by fifteen days, instead of occurring, as it usually does, between the third and eighth week, from the beginning of the disease. The objection which might be raised, viz., that the discharge may have existed prior to the inflammation of the testicle, is, Dr. Sturgis thinks, easily disposed of. Were the patient's word the only evidence, it might be a question; but from the 19th inst. until the 21st, when the discharge appeared, he was under medical observation, and it is specially mentioned that none was evident. But few such cases are recorded in medical literature, only two being, so far as Dr. Sturgis

knows, on record; one by Castelnau, where the running occurred five days after the urethral discharge; and the other by Vidal.¹ Here three times the length of time elapsed. It is always possible that the whole trouble may have been catarrhal, due perhaps to the sleeping near the open window, and this is allowable, so long as we have no positive evidence of gonorrhœa in the woman. Be that as it may, the case is a curious one, and shows that in very rare cases the testicle may be affected before any evidence of urethral trouble is apparent;

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Two Cases of Removal of Omental Tumour from the Scrotum.

Prof. J. F. MINER, of Buffalo, reports (*Buffalo Med. and Surg. Journal*, Aug. 1875) the following rare cases:—

CASE I. E. T. D., a druggist, applied to Dr. Miner in October, 1873, for relief from what he and the physicians hitherto consulted had supposed to be enlarged testicle. From infancy he had been troubled with an enlargement of the scrotum on the right side, which had increased recently as Mr. D. had increased in flesh. The patient was a healthy young man, aged about twenty-eight, weighing two hundred pounds. There was no evidence of any hereditary disorder, the tumour was not painful, and was only troublesome on account of its size and weight. There was no decrease in size in the recumbent position, nor could the growth be returned to the abdominal cavity, though it evidently extended into the inguinal canal.

Oct. 15. The patient being placed under ether, opportunity was afforded for a more careful examination than had hitherto been afforded. By careful manipulation the testicle, of normal size and apparently healthy, could be isolated from the growth, but the exact character of the tumour could not be diagnosed.

Drs. Hazeltine and Barnes, who were present, concurring in the propriety of the procedure, Dr. Miner carefully cut through the coverings of the tumour, making an incision about four inches in length, in line with the inguinal canal. After the walls of the scrotum were divided, a thin transparent sac was discovered (afterwards found to be a reduplication of peritoneum) containing what was apparently a fatty tumour of considerable size. This sac was opened and an effort made to remove the tumour. It was then discovered that it was a protrusion of omentum which had probably descended with the testicle in infancy, and had increased in size as the patient had grown fleshy. Following the protrusion up the inguinal canal it was found that it was firmly adherent on all sides to the lower portion of the canal. The cord and testicle were found in a healthy condition. The mass of omentum had become unfolded to such an extent that it was impossible to return it within the scrotum, and the adhesions precluded the possibility, if desirable, of returning it to the abdominal cavity. Nothing remained, therefore, but to cut it away. A stout ligature was thrown around the mass at the lower end of the canal, and the omentum cut away with scissors. The ligature controlled all hemorrhage, and no vessels were ligated.

The incision was closed, leaving the lower angle open for drainage, warm-water dressings applied, and the patient placed in bed.

On recovering from the anæsthetic the patient complained of considerable pain, and one-fourth of a grain of morphia was given hypodermically.

20th. Scrotum swollen and painful; a free incision at lower portion gives exit to considerable pus and some debris of tissue. No abdominal tenderness.

24th. Improving. From this date until his discharge the patient continued to improve, and, on the 9th of November, he left for his home.

The mass of omentum removed weighed two and one-half pounds. Its dimensions were not taken, but when unfolded it covered a large space.

CASE II. J. B. is sixty-five years of age, in apparent good health, and weighed three hundred and twenty pounds. Has increased in flesh to a large amount during the last eight years.

¹ Quoted by Bumstead.

Has never had hernia, and previous to his increase in flesh never noticed any growth in his scrotum. Eight years ago he began to notice an enlargement in the right side of the scrotum, which was at first pronounced varicocele, but no palliative treatment was undertaken.

This growth gradually enlarged until its size and weight became oppressive, and Mr. B. consulted several physicians in regard to it, but no one gave a decided opinion as to its nature.

When he consulted Dr. Miner, the tumour had attained such a size that the penis was entirely obliterated, the preputial orifice alone being seen at the top of the tumour. The tumour had a peculiar feeling, which gave almost the sensation of fluctuation, and to assist in the diagnosis a small exploring trocar was introduced. Nothing escaped from the trocar except a few drops of serous fluid and a small amount of oily matter. This, together with the feeling of the tumour, convinced Dr. Miner that an opinion which he had previously formed was correct, that it was enlarged omentum. Upon being told the diagnosis made, Mr. B., who was a man of intelligence, and understood the nature of the case, asked if it could be removed. He was answered in the affirmative, and the risks of the operation fully explained to him.

July 21. The patient having been placed under the influence of ether, Dr. Miner removed the tumour in the presence of Drs. Bartow, W. W. Miner, and the writer. The mass was found inclosed in a peritoneal envelope, as in the first case, and firmly adherent to the margins of the inguinal canal. After satisfying himself that no intestine was included in the mass, a ligature was carried around it as high up as the adhesions would allow, and the tumour cut away with scissors.

Upon examination of the mass, a concretion was found imbedded in its folds, the size of a walnut, of a hard, cartilaginous nature. Mr. B. had called attention to this previous to the operation, and said that it first made its appearance when straining at stool one day, accompanied by slight pain, which soon passed away. The omentum removed did not differ from that seen in fleshy persons in the natural position, it was several inches in width and length, and weighed a trifle under three and one-half pounds.

Mr. B. did well until the twenty-third, when he seemed stupid, but was easily aroused, and answered questions in a clear manner. On the 24th the stupor had increased, and was accompanied by evident paralysis of the lower limbs. The urine had to be drawn, and the patient assisted whenever he wished to move.

It may here be stated that some weeks previous to the operation Mr. B. had been paralyzed on his left side; from this he had, however, apparently nearly recovered.

On the 25th pain and tympanites appeared in the abdominal region, which gradually increased, with nausea and vomiting, and, on Monday, the 26th, the patient died of peritonitis. It is, however, safe to say that this result would not have followed had the patient been a younger man, and in a better condition to stand the operation. It was hoped that the adhesions at the abdominal ring would prevent the inflammation from extending in the abdominal cavity.

It is frequently the case that large portions of omentum have to be removed in operations for hernia, but I am not aware of the report of a case similar to the two preceding ones. That so large a mass of omentum should form in the scrotum seems at first a little remarkable, but from the nature of the two cases, their tendency to obesity, it could be surmised was it known that a portion of omentum had descended to form the nucleus for further growth.

The surgery of omental growths is not as yet clearly defined, and the report of these two cases may be of value in elucidating the subject.

A Case of Avulsion of the Tuberosity of the Tibia.

This case is reported by Dr. F. PARONA in his *Rendiconto Biennale di Clinica Chirurgica* (extract in *Annali Universali*, June, 1875). There are recorded in medical literature, according to Dr. Sellier, about thirty cases of the patello-

tibial ligament. In two only, recorded by Richet and by Sistaeh, the rupture was accompanied with the avulsion of a lamina of bone from the tuberosity of the tibia; and in one case, seen by Nélaton, and recorded by Binet, there had been fracture of the patella three years previously.

Dr. Parona's case was as follows: A robust man, a carter, came into the hospital at Novara in 1870, with a transverse fracture of the right patella. An immovable apparatus was applied, and in ten weeks he was able to walk about with the aid of a stick and a knee-cap. Six months later, in consequence of an energetic contraction of the triceps, the fibrous band of union gave way, and the patient was admitted into the hospital at Pavia. According to his account the treatment consisted in the application of two India-rubber rings, one above and the other below the knee, which were drawn together by straps. At the end of two months, fibrous union had taken place to a sufficient extent to enable the patient to walk many miles with the sole aid of a stick.

On May 13, 1872, during an effort to maintain his equilibrium, the right leg being completely extended, he felt a severe pain in the knee, and found himself unable to stand. On the same day he was admitted into hospital, under the care of Dr. Parona, who found the knee very painful and rather swollen. The patella was displaced upwards, inwards and forwards; the fibrous callus marking the fracture was felt to be firm, and about a centimetre or more in length. The patello-tibial ligament was detached from its point of inversion; crepitus was felt, indicating separation of a portion of the tuberosity of the tibia. The leg was placed in the extended position, on a slightly inclined plane; and when the local swelling had disappeared an immovable apparatus was applied. At the end of twenty days he returned home; and some months afterwards was able to walk long distances with the sole aid of a knee-cap.—*Lond. Med. Record*, Sept. 15, 1875.

Fracture of the Humerus at its Anatomical and Surgical Neck.

MR. GUSTAVUS FOOTE reports (*British Med. Journal*, August 21, 1875) the following example of this form of injury:—

"On March 18, 1871, a man named David Higgins came to my surgery, saying that he had fallen down when he was very drunk three days previously, and had hurt his arm. On examination, the arm from the shoulder downwards was found enormously swollen, especially about the elbow, and for the most part hard and brawny; there was flattening of the shoulder. I told him the arm was out of joint, and proceeded to reduce it, which was easily effected, but it fell back immediately into the old place. On a more careful examination, I discovered the upper portion of the shaft of the humerus loose in the axilla, broken off at about the surgical neck; I had merely reduced the broken shaft, leaving the upper end in the axilla. The diagnosis then was, a dislocation into the axilla and a fracture of the bone at the surgical neck occurring at the same moment. Two days later, my friend Mr. Garrard saw him; and, after a long and careful examination, he agreed with me as to the nature of the accident. The treatment I adopted was merely to make sure that the ends of the bone should be kept in apposition, and to place the arm in a sling; the object being to cure the fractured humerus, and promote the formation of a false joint under the coracoid process of the scapula. The swelling gradually subsided, the bone readily united, and a fairly good joint was formed. The patient was able to continue his employment as a mason, having free use of his arm; he could not, however, raise it upwards so as to bring the hand above the head.

"I did not see the man again until September 5, 1874, three years and a half after the accident. He was then suffering from alcoholism; the symptoms being general paralysis and vital prostration. As he had no home, I had him conveyed to the infirmary at the Union House, where he slowly sank, dying on the morning of the 10th. A *post-mortem* examination was made twelve hours afterwards. The arm presented an appearance of dislocation downward into the axilla. An incision was carried from above the acromion process down the arm, to below the insertion of the deltoid, which appeared wasted, then across the upper part, and the bone was completely exposed by dissection.

A singular condition of things was discovered. There had been fracture of the humerus at the anatomical neck and at the surgical neck of the bone; the head of the humerus was still in the glenoid cavity, and its attachments were firm. The lower end of the loose fragment had become united most accurately with the shaft, and the upper extremity had formed for itself a very good false joint, the cavity being formed by the under surface of the coracoid process, and the corresponding portions of the second and third ribs. At the point of union between the two ends of the bone on the outer side, callus had been thrown out, and a bony union had been formed with the head of the bone still in the glenoid cavity. There were in fact two joints, the false and the true one. While *in situ* the arm could be moved freely in any direction except upwards. The diagnosis proved to be nearly accurate, for practical purposes quite so. The only way in which I can account for this singular accident is by supposing that when the man fell down the shoulder must have struck against a smooth projecting stone in the road.

"The only case at all similar that I can find recorded is one mentioned by Sir Astley Cooper in his treatise of 'Dislocations and Fractures.' A Mr. Blackburn fell from his horse and was declared to have dislocated shoulder. It was not until after his death that the real nature of the accident was discovered; it was then found there had been a dislocation of the humerus, with a fracture at the anatomical neck; the detached head of the bone had become fixed by osseous union to the inner edge of the coracoid process, and the upper end of the shaft had formed a good useful joint."

New Operation for Ununited Fractures.

MR. MATTHEW HILL, of Liverpool, described at the late meeting of the British Medical Association (*British Med. Journal*, Aug. 28, 1875) the operation which he has devised for the cure of ununited fractures. It consists, like Dieffenbach's, in driving ivory pegs into the fragment, but is different in all other respects. The old operation entails a large wound in the soft parts and exposure of the bone, in short, renders the fracture "compound"; in the new operation this is avoided, the pegging being done subcutaneously. The necessary tools are an Archimedean-screw drill-stock with two or three drills, and ivory stilettes about four or five inches long. The drill and stilettes are similarly graduated in half inches, and the ivory is, moreover, grooved like a director in order to facilitate its introduction alongside the drill, and afterwards to allow the escape of inflammatory fluids, which might otherwise be pent up in the bony fragments. The *modus operandi* consists in entering the drill through a puncture made by a tenotome; the boring of the bone is next proceeded with, the graduations enabling the operator to calculate his depth to a nicety. The ivory stilette is now filed transversely half way through, at a distance from the point corresponding to the depth of the hole in the bone; it is next slid down beside the drill, which is then withdrawn, the stilette slipped into its place, lightly hammered, and with a sharp twist broken off at the notch, flush with the surface of the bone. The remainder of the ivory is now withdrawn, and the puncture sealed with a strip of plaster. It is obvious that as many pegs may be introduced in this manner as is thought desirable; in the author's case three were introduced without causing any subsequent mischief or the formation of abscess. The punctures healed kindly and by the "first intention."

On the Analogies of Dislocation of the Shoulder and Hip-joints, and the Methods of Reducing them.

DR. KOCHER contributes, in Volkmann's *Sammlung Klinischer Vorträge*, an article in which he bases the methods of reduction of dislocation of the shoulder and hip on the anatomical structure of the joints. He remarks that these joints possess several points of analogy, especially in their ligamentous apparatus. The Y-ligament of the hip-joint, which proceeds from the anterior inferior spine to the linea intertrochanterica, and is connected with the zona

orbicularis, has its analogue in the coraco-humeral ligament, which, arising from the coracoid process, divides into two branches, one of which is inserted into the greater tuberosity, the other into the lesser tuberosity of the humerus. From both these branches fibres proceed to the capsule, and perform the same functions as the orbicular ligament. These anatomical analogies indicate a similar mode of reduction. The dislocations of the shoulder and hip are essentially either forwards or backwards.

1. In dislocations upwards and forwards (subcoracoid and ilio-pubic), the special movement for reduction is flexion, which in the case of the shoulder must be preceded by strong rotation outwards, while in the case of the hip this has already been done. After flexion, rotation inwards and extension follow. In the hip, extension follows immediately on flexion.

2. Dislocations downwards and forwards (axillary and obturator) require rotation outwards, which must be preceded by flexion and traction.

3. Dislocation downwards and backwards (infraspinous and sciatic) require rotation inwards, flexion, traction, and finally rotation outwards.

4. Dislocations upwards and backwards (sub-acromial and iliac) require flexion or the utilization of that already existing, traction and rotation inwards.

The methods under consideration are essentially those of elevation and rotation. Elevation serves either for relaxation of the stretched portions of the capsule (the ilio-femoral ligament by flexion, the coraco-humeral ligament by flexion and abduction) or for stretching them so as to form a firm point for leverage.

Irregular and old dislocations require somewhat modified procedures.

The use of chloroform in the reduction of dislocations should be limited, according to Kocher, as muscular contraction may often be useful.—*London Med. Record*, September 15, 1875.

Ligature of the Common Femoral Artery; and especially on Ligature by an Antiseptic Material.

MR. OLIVER PEMBERTON, of Birmingham, at the late meeting of the British Medical Association (*British Med. Journal*, Aug. 28, 1875), read an instructive paper on this subject. He began by referring to a case described by him in his Address in Surgery at the meeting of the Association in 1873, in which, as he then supposed, he tied the common femoral artery for an aneurism in Scarpa's space. The operation was successful as regarded the main issue; but, the patient having since died from another cause, Mr. Pemberton had found that the circumflex ilii, the epigastric, and the profunda femoris arteries were given off together above Ponpart's ligament; and that he had tied the superficial femoral artery. The portion of vessel (five-eighths of an inch) between the point of ligature and the origin of the above-named branches was firmly plugged. He then went on to argue that it was the surgeon's duty in such cases to tie the common femoral artery in preference to the common iliac; because it produced less danger to the patient, and because there was yet an artery left to tie in case of failure. He did not regard the risk of secondary hemorrhage, insisted on by Mr. Erichsen, an objection to the ligature of the common femoral; and he believed that this risk might be diminished or even removed by the use of an antiseptic catgut ligature, applied in such a way as to close the artery without cutting it through. He believed that the objection as to the point of origin of the profunda was of no real importance if the vessel were not cut through. Mr. Lund (Manchester) wished to know when the hempen ligature came away, and whether it was drawn through, showing that there had been division of the artery. In the other case, did the ligature undergo solution, or remain as a fibrous band? Mr. Pemberton said that the hempen ligature came away thirty days after operation. As the loop of whipcord was intact, it must undoubtedly have cut its way through the tissues of the vessel. Mr. Dix (Hull) said that it was remarkable, he thought, that the artery he mentioned, in his paper read on the previous day, as not being ligatured for fear of secondary hemorrhage, was the common femoral. The point on which he wished most particularly to dwell was the comparison of the catgut ligature

with his own method by means of the wire compress. The advantages of the catgut ligature were, he thought: 1, that it was not a foreign body; 2, that it did not damage the internal coats; 3, that it did not require to be detached by ulceration as in the case of the silk ligature. It, however, might give way too soon; and in one case the clot had been carried to the brain on the second day. But by his method the wire could not yield too soon, nor become detached. Above all, the circulation was not cut off too quickly. The circulation was at first feeble, allowing deposition of lymph. Then, when the wire was tightened, the clot was completely consolidated. The wire could then be taken away without fear of secondary hemorrhage. Mr. Rivington (London) asked how Mr. Dix was sure that the wire did not cut through the vessel. Mr. Dix said that, in the case of carotid aneurism, there was pulsation when the wire was removed. Mr. Furneaux Jordan (Birmingham) congratulated Mr. Pemberton on his paper. At St. Bartholomew's Hospital, he had seen Sir James Paget apply a ligature to the common femoral in a stump where there was bleeding due to sloughing. Dr. Pirrie (Aberdeen) thought that their present experience did not warrant them in giving a definite opinion on the merits of acupressure and the catgut ligature. Every one knew that from limited statistics any conclusions could be drawn. It was their present duty to collect facts. There was a remarkable unanimity among the members of the profession in regard to ligature of the common femoral being undesirable; while that of the external iliac was highly successful. Mr. Lister (Edinburgh) did not suppose that Mr. Pemberton meant that a hempen ligature would be without risk when applied on an arterial trunk near a large branch. The origin of the branches of the common femoral varied extremely; and it made all the difference, whether the ligature was applied close to a large branch or a quarter of an inch above it. As to the catgut ligature not cutting through the internal and middle coats, he always applied it so as to do so. At his antiseptic demonstration, he had pointed out how the ligature was not properly prepared, as his own directions were wrong. He had prepared it rightly himself; but it was by accident. The catgut ligature, when rightly prepared, could be used without risk. He had tied the femoral artery four times, and the carotid once with it, successfully; and his colleague Mr. Annandale had had the same experience with regard to the femoral, the carotid, and the external iliac. In none of these cases had there been any giving way. Mr. Pemberton, in reply, said that in his first case there was an abiding coagulum; and in the second, where he had tied the artery one inch below Poupart's ligament, there was no severance of the tube of the artery. Ligature of the external iliac was successful; but Mr. Lister should not forget cases where the aneurism recurred. It certainly was not good to have recurrence, or to tie the artery again above the former ligature.

Angioma and its Galvano-Caustic Treatment.

ALFRED BATTIG (*Centralblatt f. Chirurg.*, No. 28, 1875) strongly recommends the galvano-caustic method of treatment in angioma. He points out how slight is the general and local reaction as noticed by all operators, and this finds its explanation in the recent researches of Cohnheim on inflammation. For Cohnheim shows that on the application of an escharotic, whatever may be its nature, there is always from the commencement a wide-spreading dilatation of the vessels with gradual degeneration, and that there then forms a central scab—a surrounding zone of stasis, an exaggerated diapedesis from stagnating capillary blood-flow, and an emigration from capillaries in which the blood is still flowing, and from dilated veins; whilst where the red-hot iron is applied there is vascular dilatation with subsequent gradual degeneration, a process that stands in no causal relation with the subsequent processes taking place in the vessels that may properly and specifically be called inflammatory. From an examination of the books and reports of the Breslau Hospital from 1870 to 1873, and of cases treated by Fischer and Maas privately, 47 in all, Battig found that 36 had been treated by the galvano-caustic method, 9 by excision, 1 with electrolysis, and 1 by acid. Most of the cases were seated in the

head. One case, which was that of a cavernous tumour on the forehead of a girl of four years of age, which was treated with the galvano-caustic, terminated fatally on the third day after the operation by meningitis. In 155 cases under the care of Middeldorpf, Fischer, and Maas, 137 were treated with the galvano-caustic, and only 1 terminated fatally.—*Practitioner*, Sept. 1875.

Esmarch's Bloodless Method.

MR. JAMES SPENCE, in his recent able Address in Surgery before the British Medical Association (*British Med. Journal*, Aug. 14, 1875), presented the following estimate of Esmarch's method:—

The method of Esmarch, though another example of a great improvement in carrying out a principle, can only be looked upon as a revival, not as new. The principle was clearly enunciated by the late Sir Charles Bell, and the mode of carrying it out by bandaging the limb from below, and then rapidly screwing tight the tourniquet, is described when discussing the value of the tourniquet in amputations, in his *Great Operations of Surgery*. But it is not in amputation that the method is most useful or seen to most advantage; and hence it had generally fallen into disuse. The method of Esmarch, by using the India-rubber roller to expel the blood from the part of the limb to be operated on, and the strong India-rubber tubing to constrict the limb, and act as compressor, effects the object in view perfectly, and hence enables us to see the parts on which we operate as in a dissection, and prevents all loss of blood during the operation. It is a most valuable assistance to us in such operations as those for necrosis and resections of bones and excisions of joints. In many cases of removal of large sequestra, or resections of the shaft of a bone especially, we can, by stuffing the wound with oiled lint, and applying a compress and bandaging the limb before removing the circular compressor, render the operation absolutely bloodless. In excision of joints, where we require to tie arteries after the operation, I prefer the tourniquet to the India-rubber as a circular compressor. It is equally effective in restraining bleeding; and, by loosening or tightening the screw, the vessels can be secured with less loss of blood than when the India-rubber is employed. Indeed, in many amputations, whilst the incisions are completed bloodlessly by Esmarch's method, the sudden and general oozing from the cut surfaces which follows relaxation of the India-rubber entails more loss of blood eventually than when the tourniquet alone is used. I have repeatedly amputated at the thigh and at the hip-joint, using only the tourniquet or manual compression, with the loss of not more than three or four ounces of blood; and in one case of primary amputation of the hip in the country by candlelight, in which I had the blood carefully collected from the tiled floor, as there seemed to be a large clot, I found, to my astonishment, that it barely amounted to half a teacupful. In many cases of amputation, owing to the septic state of the tissues, or the malignant nature of the disease for which we are operating, I consider it inadvisable to repress the blood and other fluids, such as unhealthy pus or cancer-juices, into the parts above. In such cases I draw a band of India-rubber tubing, pressing on the limb from above downwards, and tighten it immediately above the part to be removed. This, of course, saves no blood to the patient; but it renders the operation bloodless in another sense, and is especially useful in private practice, as avoiding soiling of the floor or furniture. In cases of excisions of joints, where the parts are loaded with pus, I constrict above and below the point to be operated on, and thus secure a nearly bloodless operation without risk of repressing the unhealthy fluids into the textures higher up. I cannot see the advantage of the Esmarch method in such operations as ligature of the femoral artery. I have had frequent occasion to perform operations of that kind, and also of seeing them performed by others; but it is rare to see any bleeding; and I think it better that the artery and vein should be left in their natural condition, that the operator may see and deal with them. An empty and collapsed vein would, I think, run greater risk of being injured than when seen full, its natural relation to the artery. I make these exceptions, because I think that this form of bloodless surgery is liable to suffer from its indiscriminate use, and from over-

laudation; but I have already said that I consider it a most valuable aid in proper cases, and it seems as if it were revived now with special relation to the progress of conservative surgery.

Midwifery and Gynæcology.

Treatment of Cases of Labour with Contracted Pelvis.

Prof. TAYLOR, of New York, at a late meeting of the New York Academy of Medicine (*Medical Record*, Oct. 9, 1875) read a paper on this subject. He divided his theme into two sections, as follows: What is the best treatment in cases of contracted or deformed pelvis with a diameter from $2\frac{1}{2}$ or $\frac{3}{4}$ to 4 inches, and second, Is craniotomy preferable to Cæsarean section in cases where the diameter of the pelvis ranges from $2\frac{1}{2}$ or $\frac{3}{4}$ to $1\frac{1}{2}$ inches?

To the first question he directed the attention of the Academy at this meeting, and proposed to discuss the second on some future occasion. In order to solve the question under discussion he proceeded to consider which operation is preferable in this class of cases—version or the use of the forceps—and also studied the advantages which these operations have, the one over the other. There are two important points which should always be kept in view in the study of the question, namely, that operation is to be selected which will most conduce to the safety of the mother; and second, if possible, craniotomy is to be avoided.

The professor then proceeded to recite the history of two cases, one with a uniformly contracted pelvis, and the other with a simple, flat, non-rachitic pelvis. By the simple, flat, non-rachitic pelvis is meant one in which the deformity is at the superior strait alone; and by the uniformly contracted pelvis is meant one which exactly comports with the word used, and is uniformly smaller than normal. The variety is believed to be much more common than is generally supposed, and is to be regarded as the real cause of delayed delivery in many cases of so-called tedious labour. The conclusions arrived at, with regard to the management of these two classes of cases, were that in the simple, flat, non-rachitic pelvis the forceps should first be resorted to, and if found impossible to effect a delivery by this means, then resort to version; while in the uniformly contracted pelvis the forceps should be employed, and in case the operator fails, then resort must be had to craniotomy or cephalotripsy. The professor argued that in these cases operative interference should not be delayed, as urged by many obstetric writers, until the child dies, but should be undertaken early.

With regard to version and forceps, the opinion was expressed that the assertion that the former could be resorted to earlier than the latter is untrue.

Cases were cited in which he had applied forceps through an os uteri very thin, and dilated to only $\frac{7}{8}$ of an inch in diameter, not large forceps for the purpose of effecting delivery, it is true, but forceps constructed in a peculiar manner, by means of which the head could be held in such a position as would enable it most effectually to secure the dilatation desired, and, when this was accomplished, then the larger instruments were applied and the child quickly delivered.*

Finally, the question of the induction of premature labour was referred to, and the belief expressed that the results following this operation are not so unfavourable as one would be led to suppose by reference to the writings of very many observers.

On Temperature in Puerperal Eclampsia and the Clinical Indications it furnishes.

Dr. BOURNEVILLE (*Archives de Tocologie*, April, 1875) thus formulates the conclusions at which he has arrived from the careful observation of a number of cases:—

"1. In the eclamptic state the temperature rises from the beginning to the end of the attack.

"2. In the intervals of accession the temperature maintains a high figure, and at the moment of convulsions the mercurial column registers a slight ascension.

"3. Lastly, if the eclamptic state ends in death, the temperature continues to rise, and attains a very high figure; if, on the contrary, the accessions disappear, and the coma diminishes or ceases definitely, the temperature progressively lowers and returns to the normal figure."

Dr. Bourneville remarks also that, in addition to the valuable information afforded by the thermometer in respect of prognosis and treatment, it furnishes valuable diagnostic indications. He states that in *true uræmia*, whether it occur in men or in women, whether it be caused by an affection of the kidneys or by obliteration of the ureters, whether it assume the comatose or convulsive form, the temperature is always progressively lowered, sometimes falling very low.

He adds: "From the first we note a LOWERING of the temperature in URÆMIA, and an ELEVATION of the temperature in PUERPERAL ECLAMPSIA. In the course of uræmia the temperature is progressively lowered, whilst in the course of the eclamptic state it rises more and more from the onset of the accessions, and that with great rapidity. These differences are accentuated at the approach, and even at the moment of death; in uræmia the temperature descends very low, even much below the normal figure; in puerperal eclampsia, on the contrary, it attains a very high figure."—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

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Case of Double Vagina and Uterus, with Pregnancy of the Right Uterus and Delivery through the Left Vagina.

Dr. A. E. HOADLEY, of Chicago, reports (*Chicago Med. Journ. and Ex.*, Oct. 1875) the following rare and curious case:—

Mrs. S., a robust German, aged 19, primipara; when summoned to attend her, found that she had been experiencing regular and active labour-pains for twelve hours. Examination revealed a double vagina and uterus, with pregnancy of the right uterus; the uteri lying side by side, with the two necks closely united, the vaginal septum extending from between them and terminating in a thick round cord, or fold of mucous membrane, just inside the vulva, so that the external genitals presented a normal appearance. On separating the labia, the outer end of the septum could be seen extending from the symphysis pubis to the fourchette, giving to each vaginal orifice the same shape and size.

By the aid of the sound, the left or empty uterus was explored; it was expanded over the side of the pregnant or right uterus, and its cavity was fully six inches in length. The os of each uterus was rigid and so closely contracted that it would barely admit the tip of the index finger, notwithstanding the use of the ordinary means to induce dilatation of the rigid os. It was not until the sixth day that dilatation commenced, the pains continuing regular and quite severe all the time.

Dr. W. H. Byford and Dr. J. D. Skeer were called in consultation, and pronounced it a perfect case of double uterus and vagina. As the patient's strength remained comparatively good, non-interference was advised.

The presentation of the child from the first was normal, but, as soon as dilatation had commenced, Dr. Hoadley thought to hasten labour by turning, and, as the membranes had not yet been ruptured, this was accomplished by external manipulation without the least difficulty, and the membranes ruptured. The breech then, under the influence of vigorous uterine contractions, descended rapidly, forcibly dilating the os, and at the same time rupturing the upper end of the vaginal septum, which afforded ample room for the passage of the child. Labour now progressed rapidly, and, before Dr. Hoadley was aware of it, there was a foot of the child protruding through the rent into the left vagina. It was found impossible to return it without completely rupturing the vaginal septum; but, without delay or difficulty, Dr. Hoadley succeeded in bringing down the

other foot through the same orifice, and the labour, which was 138 hours in duration, was very soon terminated, leaving about two inches of the outer end of the vaginal septum unruptured.

The patient made a very rapid and perfect recovery, and in two months from her confinement visited Dr. Hoadley's office, and submitted to an examination of her genital organs. By passing a sound into each uterus at the same time, Dr. Hoadley could demonstrate to his entire satisfaction that the deformity was symmetrical, both uteri being of equal size, and that the rupture in the septum was closed and perfectly healed.

Hygiene.

Epidemic of Typhoid Fever Propagated through the Milk-Supply.

A severe outbreak of typhoid fever, a counterpart of the Marylebone epidemic, has occurred at Jarrow. It has been discovered by Mr. JOHN SPEAR, medical officer of health, to have arisen from an infected dairy, his suspicions of this farm having arisen from the fact that fourteen of the infected families received their milk from that source. On visiting the farm, Mr. Spear found that six of the farmer's family, including himself, were laid up with typhoid. The water used in the dairy was derived from a well eighteen yards distant from a privy and cesspit, a hole in the ground unprotected by any brickwork. An analysis of the water revealed the fact that it was contaminated with sewage to a very great extent; the analysis showing:—

Total solids	106.3	grains per gallon
Chloride of sodium . . .	12.6	“ “
Free and saline ammonia .	.031	“ “
Organic ammonia . . . .	.053	“ “

An analysis of the milk, while it showed a poor quality, did not prove any adulteration by water. The washing of the cans with water from a contaminated source is quite sufficient to render it infectious. The peculiar system also by which each customer has his own tin bottle containing his daily supply, each bottle having, in addition to the usual cork, a piece of rag wrapped round it for the purpose of making it fit tightly, the piece of rag being passed from hand to hand, must increase the danger of infection immensely. Besides the water-pollution of this particular place, the whole arrangements were of a most disgusting kind. There was direct communication between the dairy and the rooms in which some of the fever patients were lying, whilst the dairy itself did double duty as a washhouse, and clothes from the fever patients had actually been washed there. The girl who milked the cows, a daughter, was in constant attendance on her sick relatives. The first patient was the boy who delivered the milk, and his case rapidly gave rise to others. Of twenty-seven families who received their milk-supply from this one source, eleven suffered. The aggregate number of cases amounted to twenty-five. To the prompt and efficient action taken by Mr. Spear and his staff of sanitary inspectors is due the fact that the fever was stayed. The polluted milk-supply was at once cut off, and disinfectants were freely used. Mr. Spear also ascribes the rapidity with which in some instances the disease extended, to the unwholesomeness of the houses, and the abominable state of some of the privies and ashpits attached to them. One of the chief conclusions which Mr. Spear draws from this outbreak, is the necessity which exists for some radical alteration in the mode in which the milk trade is carried on, and in this we cordially agree with him. In some of the best London dairies, a rigid sanitary inspection of all the farms which supply them with milk, and an analysis of the well-water in which the utensils are cleansed, are insisted on; and had some such inspection been made in the case of this particular farmhouse, we may safely assume that this epidemic would have been prevented.—*British Med. Journal*, Sept. 18, 1875.

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(For List of Contents see last page.)

DECEMBER, 1875.

Anatomy and Physiology.

Absence of the Clavicle.

In the *Archiv der Heilkunde*, vol. xvi., O. KAPPELER describes the case of a girl, aged 16, in whom on one side there was only a rudiment of a clavicle, an inch and a half long, loosely connected with the sternum; and in the other, where also the cleido-mastoid muscle was absent, one only three-fifths of an inch in length. Both humeri could be easily brought in front of the chest until they touched; and yet there was no functional disturbance, the absence of the clavicles being completely compensated by muscular action, especially as regarded the fixation of the scapulæ.—*British Medical Journal*, Oct. 16, 1875.

The Lymphatics of the Lung.

A second very valuable and important series of researches on the lymphatics, undertaken for the Medical Department of the Privy Council, has just been published by Dr. KLEIN, the assistant-professor at the laboratory of the Brown Institution. The present volume deals with the lymphatics of the lung, both in their normal and in their pathological conditions; and Dr. Klein informs us in the preface that the research was originally intended to ascertain the relation of the lymphatic system of the lung to the process of tuberculosis. It was soon ascertained, however, that the incomplete state of our knowledge of the lymphatics of the lung rendered it imperative to subject them to a careful scrutiny with a view of discovering their minute distribution. The result of the investigation has proved of extreme value in elucidating the process of artificial tuberculosis in guinea-pigs, and the process of acute miliary tuberculosis in man, which are fully discussed in the second section of the volume.

Dr. Klein commences his account of the normal condition of the pulmonary lymphatics by a minute description of the cells investing both the costal and the pulmonary pleura; in the course of which he shows that, whilst those of the costal pleura are ordinary pavement epithelium, those of the pulmonary pleura present considerable differences, according to whether they are examined when the lung is in a contracted or in an expanded state. In the expanded condition of the lungs the cells forming the endothelium covering it are flattened, rather thicker at their centres than at the periphery, with pale and transparent cell-substance, and discoid excentric nucleus. When stained with nitrate of silver, the lines of junction of the cells are marked by fine, dark striæ, inclosing polyhedric areas. In the contracted condition, on the other hand, the cells are no longer flattened plates, but are polyhedral or even columnar, with rounded apices; their contents are distinctly granular, and the nucleus has assumed the form of a slightly flattened spheroid. The change in the form of the cells causes a different appearance to be presented when the superficial and the deeper parts are respectively brought into focus. In the former case the cells appear as spherical bodies, separated from each other by broad furrows; in the latter case they appear like a continuous mosaic of cells.

separated by thin intercellular lines. Dr. Klein points out that the differences between the endothelial cells of the collapsed lung and those of the costal pleura are very similar to the differences observed by Waldeyer between the cells covering the upper part of the ovary and those lining the peritoneum generally.

He next considers the matrix of the pulmonary pleura, which he describes as composed of very delicate bundles of connective-tissue fibres, with a few fine elastic fibres crossing each other in various directions, and leaving spaces between them, each of which contains a flattened nucleated connective-tissue corpuscle. These spaces, with the contained corpuscles, intercommunicate freely, and constitute the so-called lymph canalicular system. In guinea-pigs there are in addition slender bundles of unstripped muscle-fibres, arranged so as to form a network with long rhombic meshes. The position and arrangement of these fibres are minutely described, and it is shown that the lymphatics are in close relation with them; and that, since the meshes enlarge and contract with the movements of the lung in inspiration and expiration, they must exert a pumping action, exercising an important influence in promoting absorption from the pleural cavity. But the question naturally arises, Is there any direct communication between the cavity of the pleura and the lymph canalicular system? And Dr. Klein answers this in his third chapter by showing that there are stomata surrounded by germinating epithelium on the surface of the pulmonary pleura, which are connected by short vertical tubes communicating with the lymphatic lacunæ of the muscular coat, which again communicate with the subpleural lymphatics, the distribution of which he carefully describes. In the mucous membrane of the bronchi the lymphatics open on the surface in a different way. Here there are indeed no stomata nor vertical tubes, but Dr. Klein has discovered what he terms a pseudo-stomatous tissue, consisting of isolated connective-tissue cells, differing in their shape, their refractive power, the character of their nucleus, and their mode of staining—in short, in all their morphological characters—from the adjoining epithelial cells. These cells occupy spaces which, like the true stomata, form communications between the free surface and the submucous lymphatics, but, being filled with the cells, are impervious, unless the tissue is expanded or distended. Further investigation showed that there is a system of perivascular lymphatics around the bloodvessels of the alveoli.

It thus appears that the radicles of the lymphatics of the lung are distributed over three different parts—the walls of the alveoli, the walls of the bronchi, and the pulmonary pleura. The first system is represented by irregular lacunæ and anastomosing vessels, being the spaces for the branched connective tissue corpuscles. Some of the vessels of this system, appearing on the surface, form the *subpleural lymphatics*; whilst others accompany the branches of the pulmonary artery and vein, and constitute the *perivascular lymphatics*; the larger vessels running towards the root of the lung. The system is represented by irregular lacunæ and anastomosing canals in the mucosa, both of which are lined by connective-tissue corpuscles; the lymphatic vessels originating in these have a special endothelial wall, and form a network of *peribronchial lymphatics*, in connection with which are some lymphatic follicles, and discharge themselves into the same efferent vessels as the perivascular lymphatics of the alveoli. The third system is that of the pulmonary pleura, which, as already stated, is supplemented in the guinea-pig by a system of *intermuscular lymph spaces*. The subpleural lymphatic vessels stand in a direct open communication with the pleural cavity by means of *stomata*; whilst the radicles of the perivascular and peribronchial lymphatics stand in an indirect communication with the alveolar cavities or the surface of the bronchial mucous membrane, respectively, by means of *pseudo-stomata*.

We shall proceed on another occasion to show the bearings of these anatomical facts upon the pathology of the lung, a subject of the utmost interest in relation to the most important disease of this country—tuberculosis.—*Lancet*, Oct. 30, 1875.

Anatomy and Physiology of the Liver.

In the latter part of Ludwig's *Arbeiten* for 1875, which contains the results of work done in his laboratory during the preceding year, Mons. G. Asp gives a very careful and complete account of the Anatomy and Physiology of the Liver. He first describes the cells of the parenchyma of the liver, which, he observes, are often destitute of a nucleus, but frequently also contain one, and sometimes two nuclei. He gives a beautiful illustration of them, in which the nucleus appears as a disk, which is hazy towards the centre from the accumulation of granules; around the granules is a clear area, which is surrounded by a double contour line. In some instances all the cells of the liver seemed to be destitute of nuclei; whilst in other instances only particular parts of the liver contained non-nucleated cells. As the animal in which he first noticed this absence of nuclei in its hepatic cells had been fasting for many hours, he conceived that it might be connected with the period of digestion; and to test the accuracy of this view, he starved a rabbit for sixty hours, then removed a small portion of the liver through a small opening in the linea alba, and closed the wound. The animal was then abundantly fed, and shortly afterwards was killed by bleeding, and another portion of the liver examined; but the results did not support his theory, as non-nucleated as well as nucleated cells were found in both conditions—in the fasting as in the well-fed animal.

M. Asp enters into minute details of the distribution of the finest biliary ducts. These, it has now been satisfactorily ascertained, do not, as was formerly supposed, end in blind extremities outside the follicles, but penetrate into their interior in the form of fine canaliculi, which groove the surfaces of adjoining hepatic cells. The inter-insular biliary ducts are lined, according to Asp, by a fine columnar epithelium, which rests on a striated tissue composed of connective-tissue fibrils, and flat cells with fusiform nuclei; but he has not been able to convince himself that the cells, as Heidenhain supposed, are a form of unstriated muscular tissue. From these a number of fine capillaries are given off, which, dipping into the substance of the follicles, still possess a wall, and are not mere spaces between the cells. Their wall is composed exclusively of the above-mentioned flat cells with fusiform nuclei, the internal layer of columnar epithelium and the outer layer of connective tissue having gradually ceased. The precise mode in which the biliary capillaries terminate cannot be said to be accurately known. With all ordinary injecting fluids a plexus comes into view; but if they are injected with a solution of alkanin in oil of turpentine, or with an alcoholic solution of gamboge, very remarkable appearances are produced, which are only explicable upon the supposition that the solutions thus made penetrate into the interior of the hepatic cells by filtration, though this cannot be held to disprove the existence of a cell-wall.

Asp corroborates the statements made by MacGillavry that the hepatic bloodvessels are surrounded by perivascular spaces, as he has been able to inject them by the method of puncture.—*Lancet*, Oct. 9, 1875.

Materia Medica and Therapeutics.

Physiological and Therapeutic Properties of Nitrile of Amyl.

M. BOURNEVILLE (*Journal de Thérapeutique*, July 10, 1875) has experimented with this substance on cats and rabbits, and has obtained the following results: The rabbits to which the drug was administered showed a very marked diminution of the pulse rate, injection of the conjunctiva, cyanosis of the tongue, a considerable dilatation of the vessels of the pinna of the ear, and a lowering of the cardiac energy. With larger doses, general cyanosis took place, and arrest of the heart's action. The temperature was invariably

lowered, the reduction sometimes amounting to 2° C. It has long been known that nitrite of amyl produces a dilatation of the superficial vessels of the head, but there is still some doubt if a corresponding enlargement of those of the brain takes place. M. Bourneville has, however, by the removal of a portion of the skull of a rabbit when under the influence of the drug, been able to ascertain that the vessels of the meninges are in a condition of dilatation. As regards its action in the human subject, and especially in epileptic patients, M. Bourneville's experience is not very favourable. He finds, indeed, that it is powerful in arresting an attack of epilepsy after the access of an aura, but he believes it to be powerless against the disease itself, and has not been able to confirm the favourable opinion expressed by Dr. Crichton Browne in this respect. In cases of hystero-epilepsy, the patients have much benefited by its use, in so far as it prevented the occurrence of threatened convulsive attacks, but here also no permanent amelioration has been obtained. In these cases also, he has noticed, after its inhalation, certain unpleasant consequences, such as the production of cyanosis, followed by pallor, hallucinations of sight, amblyopia, by headache, giddiness and loss of appetite. The dose which he has administered varied from 7 to 20 drops, and in one case 60 drops were inhaled without other ill effect than the production of pallor, vertigo, and headache which lasted for some hours.—*Glasgow Med. Journ.*, October, 1875.

Salicylic Acid as an Antiseptic.

Mr. CALLENDER, at a late meeting of the Clinical Society of London (*Brit. Med. Journ.*, Oct. 16, 1875), brought forward a series of cases illustrating the use of this agent as an application to wounds. The acid was used in various ways, and the three following preparations were the ones chiefly employed: *a.* Phosphate of soda, 3 parts; salicylic acid, 1 part; water, 50 parts. *b.* Salicylic acid, 1 part; olive oil, 49 parts. *c.* Salicylic acid, 1 part; bicarbonate of soda, half-a-part; water, 100 parts. In addition to these, however, it was occasionally used combined with borax, or in the form of an ointment with prepared lard; and a preparation of the acid with mastic and spirits of wine was tried, but had to be abandoned by reason of the irritation caused, as it was thought, by the ingredients combined with the acid. Seven cases in which the acid had been employed were narrated. In three of the cases, a vesicular eruption was caused by the acid, and necessitated its withdrawal. In one case, it was followed by considerable local irritation, which was relieved by the withdrawal of the acid. In a case of excision of the elbow-joint for strumous disease, the wound was washed out with salicylic acid, and was dressed with solution "a" on Japanese paper. There was considerable discharge from the wound, and the granulations were pale and flabby; the dressing after a time was changed to carbolic acid, when the granulations became florid and the discharge was reduced to a minimum. In the remaining two cases, the wound healed rapidly under the application of salicylic acid. From these cases and from other observations, Mr. Callender arrived at the following conclusions. Putting together its good points, he found that salicylic acid was free from odour, and so far was acceptable to the patients; that wounds healed under its influence, and, during the progress of the repair, were free from bad smells; that, unless strong with spirit, or but little diluted, it did not cause local pain. Its bad points seemed to be these: that, above the strength of 2 per cent., it caused local irritation, with some constitutional disturbance; and, if the patient has a delicate skin, even the weak preparation was a source of trouble; that there was more discharge from a wound dressed with salicylic than there was where carbolic acid was used; that its influence upon a recent wound, as after an operation, was not so efficacious against the occurrence of decomposition as was that of carbolic acid, chloride of zinc, or of boracic acid; that the repair of a wound was less active, and the granulations, if any, were more flabby than when other simple or antiseptic dressings were employed. On the whole, while admitting its use as a local application to be fairly commendable, Mr. Callender thought it inferior in its antiseptic proper-

ties to other agents, and did not consider it to be a remedy meriting the strong recommendations which had been given it by some of those who had made trial of it.

Sir WM. JENNER remarked (in the absence of Mr. Callender) that, from the paper, it would seem that the vesicular rash in the case in which its appearance was noted was local only, and occurred solely where the acid came into contact with the skin. He himself had seen a lady with a large burn dressed with salicylic acid, in whom a good deal of constitutional disturbance and a general rash, very similar to the rash of scarlatina, had been produced by the dressing with the acid. After a time, the rash returned, when the same dressing had been resumed. He could not find that the surgeons who had principally used the acid had noticed any rash to follow its employment. The rash in his patient had been quite general; it covered the face and all parts of the body. The dressing quite destroyed all fetor; there was no smell at all from the wound, which was a very large one.—*British Medical Journal*, Oct. 16, 1875.

Medicine.

Malarial Hæmaturia.

Paroxysmal hæmaturia has formed the subject of some discussion in the medical journals during the past few years, but it seems to be now generally admitted that the disease is usually of malarious origin; quinine, with or without iron, being the staple treatment. In the following case, which recently in India came under the observation of Mr. C. R. FRANCIS, Surgeon-General, Bengal Army (*Med. Times and Gaz.*, Oct. 16, 1875), although the hæmaturia was not paroxysmal, malaria was evidently the *fons et origo mali*. The patient, a male European infant at the breast, and about four months old at the time of the attack, became feverish on March 29, 1873. The child's complexion was naturally very pale, and his temperament eminently nervous—inheritances from his father; but, up to the above date, his health had been uninterruptedly good.² The fever, which assumed the characters of a somewhat irregular intermittent, subsided shortly after midnight, but returned the following evening. It thus continued, with varying severity and more or less irregularity, till April 9, when the high colour of the urine attracted attention. On the 14th this high colour had greatly increased. Between these two dates the urine had soaked into the napkins in the ordinary way; but on the latter date, at the request of the medical officer in attendance, it was voided (with evident suffering) into an eight-ounce measure-glass.

The secretion, which emitted little or no smell of urine, looked like pure blood, and soon separated into two distinct portions—a dark-red deposit, and a clear supernatant fluid, resembling liquor sanguinis. On putting some of the deposit under the microscope, large quantities of (apparently) crystals of oxalate of lime were seen, with urates, and entire red corpuscles mixed with what was no doubt the *débris* of others. Owing to a singular oversight the liquor was not tested with the care with which it might have been. It would, doubtless, have been found full of albumen. The child was now, as may be supposed, very weak.

The attack being (presumably) malarious, it was decided to give quinine in full doses to the mother, this being considered a safer course than administer-

¹ It seemed rather as if the blood itself took the place of the urine, which should have been secreted from it. Doubtless both the purpura and hæmaturia were due to the same pathological condition.

² The child had been vaccinated about three weeks previously, with a satisfactory result.

ing such a powerful drug direct to so young an infant, whose stomach was, moreover, very irritable. Five grains were therefore prescribed, to be taken in the evening in anticipation of the expected paroxysm. Ten grains were given in five-grain doses on the following day, and repeated daily till the 17th, when, improvement having taken place, the doses were reduced. Gallic acid was added to the first three doses of quinine, but was then discontinued, as the infant was griped, and there was no amelioration. No decided change occurred in the urine until twenty-five grains of quinine had been taken. Then the napkins were decidedly lighter, and from this time the renal secretion was rapidly restored to its normal condition.

On the 18th it was quite natural, and the fever had (for the nonce) altogether disappeared.

The child remained weakly for some weeks (and even months) afterwards, and symptoms of fever showed themselves occasionally; but quinine, taken by the mother, always arrested the attacks.

On May 12, rather extensive discolorations (from purpura) appeared on an arm and a leg, and more slightly on the trunk. These, too, yielded to quinine and tonics.

The little patient remained under my observation till September, 1874, when I left the station. During that period his health varied. For a few weeks together he would, apparently, be quite well; then, under irritation from teething, feverishness or diarrhoea would throw him back; but the abnormal condition of the urine never returned.

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Paralysis Agitans and Insular Sclerosis.

We extract the following from a very able review of the "Recent Researches in Nerve Pathology" contained in the October (1875) number of the *British and Foreign Medico-Chirurgical Review*. Our knowledge of the two diseases whose names appear as the title of this article is so scant, since but little has been written concerning them, particularly in the English language, that no apology is necessary for the following extremely instructive and graphic, though lengthy description.

The two diseases which are here considered together have very close affinities in many important particulars. Alike in the obscurity of their causation, alike in their morbid anatomy, alike in their clinical features, their resemblance is still further increased by the slowness with which each has gained a footing amongst recognized diseases in this country.

Although paralysis agitans was described as long ago as 1817 by our countryman Parkinson, and although it has been elaborately treated of by Dr. Sanders in *Reynolds' System*, the number of complete cases published in England may be counted on the fingers of one hand; and as to insular sclerosis, so little attention has it attracted that a learned French author can express a doubt as to whether the disease is even known on this side of the Channel.

The most complete description of these maladies is contained in Prof. Charcot's admirable *Lectures on Diseases of the Nervous System*, a work which we commend to our readers as containing on many subjects, and especially on the diseases of the spinal cord, the most recent, exact, and comprehensive knowledge obtainable, related with all the national precision of idea and of diction, and with an infusion of interest, sometimes amounting to enthusiasm, which is peculiar to the author. So accurate have become the observations in the clinic, and so definite the morbid changes discovered by new methods of examination, that Prof. Charcot is able to map out the cord into pathological regions, and to say with precision what symptoms shall follow from disease of each one, and, conversely, what regions shall be found diseased when such and such symptoms are presented. When it is remembered how short a time it is since locomotor ataxy was definitely located as disease of the posterior columns, and when it is considered that a standard text-book still in use can describe multitudinous nervous disorders, amongst others chorea and epilepsy, as symptoms of a disease called "spinal irritation," it will be seen how vast is the advance which these lessons indicate.

Dr. Moxon's report (*Guy's Hospital Reports*, vol. xx., 1875) of the eight cases under his care is the only account of insular sclerosis in the language, and his cases were the first in this country in which the disease was diagnosed and the diagnosis verified. His readers are greatly indebted to him for the acumen with which he has separated the essential symptoms from the non-essential, and presented a most concise description of the usual features.

Mr. Kesteven ("Morbid Histology of the Spinal Cord," *St. Bartholomew's Hosp. Rep.*, vol. viii. 1872, and "Miliary Sclerosis," *Brit. and For. Med.-Chir. Rev.*, July, 1874) is well known for his laborious and very valuable researches into the morbid histology of the spinal cord; and his name is especially associated with a change known as miliary sclerosis, which must be carefully distinguished from that called insular sclerosis, which we are about to consider. The one is a change invariably associated with a definite group of symptoms; the other, although a gross and destructive change, is common to a great number of diseases most diverse in their manifestations.

The reviewer then relates the following imaginary cases compiled from Prof. Charcot's (*Leçons sur les Maladies du Système Nerveux faites à la Salpêtrière*) account, checking it where desirable by comparison with other works.

Taking first paralysis agitans, we find that the patient may be of either sex, and of any profession or station in life; he is more than forty years old; he has, perhaps, lived in a cold damp place, and has suffered much mental distress. For some time before he comes under care he has suffered from a sense of great fatigue, or it may be from rheumatic or neuralgic pains in the limb which is about to be attacked by tremor. Gradually the agitation from which the disorder takes its name begins to affect, say, the forefinger and thumb of the right hand. These digits are perpetually quivering and striking together as if the patient were taking pinches of snuff or rolling pellets of paper. Little by little the tremor affects the other fingers, then the hand; and to this it may remain restricted for a long while, even for years. Eventually, however, it spreads up the right arm, and at the same time the right foot becomes involved; and after a while the left hand and left foot follow the same course.

The muscles of the face do not become tremulous. On the contrary, they become unusually immobile, and give the face a remarkably fixed, sad, dogged expression, which of itself is almost diagnostic of the disease. This fixity of the face is but part of a general rigidity which at a later period affects the muscles of the neck, trunk, and some at least of those of the extremities. The effect of this rigidity is to impose on the patient a most remarkable attitude and gait. The head is strongly inclined forwards, and the body also leans in this direction; the elbows are a little away from the sides, the forearms flexed on the arms, the hands flexed at the wrists and resting on the waist, while the fingers maintain their constant oscillations. If the patient be told to walk, he rises slowly and with difficulty from his seat, hesitates for some seconds, and then starts into a rapid shuffling trot, "as if," says Prof. Charcot, "he were running after his centre of gravity, which still escaped him." Or, instead of this, he may have a tendency to go backwards.

It is to be remarked that the patient has no nystagmus, nor is his articulation affected as it is in sclerosis, unless indeed the agitation of the body be so great that it communicates an interruption to the voice like that which affects a novice in equitation when his horse begins to trot. As a rule, however, the voice, far from being tremulous, has a monotony of expression similar to that of the face. The patient speaks abruptly in monosyllables or short sentences, and uses no cadence, but maintains his voice at one invariable pitch from the beginning to the end of his sentence, a peculiarity which renders his tone very striking.

Besides these motor troubles, the patient has affections of sensation, which, though they cannot be called painful, are sometimes sufficiently severe to render his life quite burdensome. There is a constant feeling of tension in the muscles, a sense of fatigue, and an indefinable uneasiness which urges him to incessantly change his position. Besides this, there is a feeling of excessive heat, which compels him, even in the depth of winter, to toss off all his clothes. In spite of this, however, the temperature is not raised, and this is in accord-

ance with the rule which Prof. Charcot and Dr. Bouehard have enunciated, that in static contraction of muscles, or that contraction which is chiefly tonic, the temperature is raised, while in dynamic contractions, or those which are chiefly clonic, the temperature remains normal. This is what we should *à priori* be led to expect, since in the former case the work done is wholly out of proportion to the vigour of the contraction, and we should therefore expect a production of heat in lieu of the arrested mechanical motion, while in the latter case, since the limbs are moved, work is done, and, the greater part of the force being expended in mechanical motion, there is but little to be converted into heat.

We have related these symptoms as occurring continuously, but the reader must understand that they are spread over a very long time, ten, twenty, or even thirty years elapsing before the terminal period arrives. Sooner or later, however, the motor trouble increases to such an extent that the patient is obliged to remain in his chair all day, and at last is confined to bed. Then his nutrition suffers, his intellect becomes obscured, he gets more and more prostrate, at last bed-sores appear on his sacrum, and he dies from gradual exhaustion; the characteristic tremor having much diminished and perhaps altogether ceased during this terminal period.

Such is the general course of a typical case of paralysis agitans, but of course there are many variations in the severity of the different symptoms, and it is comparatively rare to meet with a case which presents them quite like the foregoing. Prof. Charcot states that there are rare cases in which the muscular rigidity is one of the earliest symptoms, so that before the tremor has appeared, or when it is not very slight, the attitude and gait are already very pronounced. We believe that it is not uncommon for the fixed expressionless face, the peculiar voice, and the characteristic attitude to exist early in the disease, when tremor must be narrowly looked for to be detected at all. The agitation is not, as the nomenclature implies, the most characteristic symptom. The termination, too, is more often brought about by some intercurrent affection, by pneumonia for instance, than by the course of the disease itself.

There is a certain satiric humour in Prof. Charcot's notice of the morbid anatomy of paralysis agitans. He divides the autopsies hitherto made into three groups. In the first group nothing at all was found. The second group comprises cases of supposed paralysis agitans, which Prof. Charcot considers were in reality sclerosis; and the third group contains the case of Parkinson subsequently mentioned, and a similar case by Oppolzer, which is treated with similar distrust. There are, however, other cases on record which give much more satisfactory results. Leyden has reported one in which the agitation was limited to the right arm, and a sarcoma the size of a large nut was found in the open thalamus of the opposite side. Murchison and Cayley have reported a case in which very definite changes, partly of sclerosis and partly of cell growth, were found in the cord; but as in this case the symptoms are described but very briefly, it is possible that Prof. Charcot would place it in his second group. Joffroy, however, took especial care to investigate this point, as to whether the cases were really paralysis agitans or insular sclerosis, and he states that two out of his three cases were clearly paralysis agitans. In these two cases there was exuberant growth of the epithelium of the central canal and of the nuclei around. In the third case, which seems not to have been a very doubtful one, there was in addition a sclerosed patch in the medulla.

In the brief historical introduction to insular sclerosis Prof. Charcot notices the total absence of all mention of this disease from the standard work of this country.

When it is considered that in insular sclerosis there is a gross change which may affect any part or any combination of parts of the cerebro-spinal axis, it will be readily understood that the symptoms to which this change may give rise will differ very widely with the part of the nervous centre involved; and when it happens to involve a part which is a common seat of other changes, the symptoms of sclerosis will closely simulate those of other diseases. Apropos of this peculiarity Prof. Charcot relates how a distinguished physician, who,

however, was not familiar with the symptoms of sclerosis, paid a visit to the hospital where it abounded. Prof. Charcot's colleague showed him a case of the new disease; it was a beautiful specimen of the cerebro-spinal form. The patient left his bed and made a few steps down the ward. "He is an ataxic," said the visitor. "Perhaps," replied the host; "but what do you think of these rhythmic movements with which the head and upper extremities are affected?" "I see," replied the visitor, "he has chorea besides, or perhaps paralysis agitans." The patient was then interrogated, and replied with a peculiar defect of articulation, and often with slight tremor of the lips. "I find," said the physician, "you wish to puzzle me by showing me a case of extreme complexity. Here are now the symptoms of general paralysis. We will go no further; your patient unites, perhaps, in himself the whole pathology of the nervous system."

In spite of this, however, it is by no means difficult—at any rate in an advanced case—to diagnose the disease, which we shall now proceed to describe in the same manner as the last.

When the malady first appears the patient is a young adult. The first symptom noticed by her (for it is more common, according to Prof. Charcot, in women than in men) is a gradually increasing enfeeblement of the lower limbs—a symptom common enough, but which excites suspicion of sclerosis if there is no accompanying disturbance of sensibility, no atrophy of the muscles, no bladder or rectum trouble, and particularly if there are intermissions in its course. This may remain the sole symptom for months or even for years before the advent of the characteristic tremor places the diagnosis beyond a doubt.

The tremor of insular sclerosis is quite peculiar, and by the exercise of ordinary care may be easily distinguished from other forms which at first sight resemble it closely. When the patient is in the recumbent posture, abandoned to complete repose, there is no trace of tremor in any part of the body. When she is seated there is no tremor in the extremities, which are at rest, but the head and trunk, which are sustained by muscular action, are agitated by a slight trembling motion. Now, if she be told to carry a glass of water to her mouth, immediately the arm begins to move tremor is developed, and the more prolonged and extensive the movement the greater become the excursions of the tremor. When first she grasps the glass the tremor is scarcely noticeable, but as she continues the movement the agitation becomes more and more severe until when it reaches the mouth the glass is clattered against the teeth, and the water is spilt. Similarly, when first she begins to walk the tremor does not interfere greatly with her progress, but at each step she staggers more and more until it is necessary to support her in order to save her from falling. Let her now be placed on her bed and immediately all tremor ceases.

The tremor of paralysis agitans, with which, no doubt, insular sclerosis has often been confounded, unites with greater general similarity several points of marked difference.

In the first place, the tremor of paralysis agitans exists just as much during repose as during exertion, and never departs except under the influence of slumber. Dr. Moxon says that "in paralysis agitans the patient is much less disturbed by it [the tremor], and there is not that extreme, almost idiotic helplessness of manner which characterizes sclerosis, due doubtless to the extensive destruction of brain," etc. It is evident that this applies to those cases only in which the brain is involved as well as the cord. Again, while the head, and particularly the lips, are greatly agitated in sclerosis, in paralysis agitans they are remarkably fixed. Then, too, in the latter affection the shocks of the tremor have less excursion, are more regular, more rapid, more crowded together, as it were, than they are in sclerosis, in which the oscillations are more ample and more approach the gesticulations of chorea.

It is always easy, however, to distinguish the disorderly and *bizarre* movements of chorea from the rhythmic oscillations of sclerosis; indeed, Dr. Moxon says that the latter are not in the least like chorea, and that he will not waste time in giving differences. It is only necessary to notice that in sclerosis the general direction of a movement—as for instance that of carrying the hand to

the mouth—persists in spite of the tremor, while in chorea the act is interfered with by absolutely contradictory movements.

Then also in locomotor ataxy, although there are abrupt disorderly gestures, there is no true tremor, no rhythmic succession of shocks, as there is in sclerosis; and in the latter malady closure of the eyes has no effect on the movements.

In mercurial poisoning tremor occurs which is wholly indistinguishable from that of sclerosis, but in which, according to Dr. Moxon, there is not the *embarrassed helplessness* of sclerosis.

This gradual enfeeblement with the accompanying tremor, the most striking as it is the most characteristic symptom of sclerosis, spreads at length to the upper extremities; and when these the spinal symptoms are well developed, a new set of symptoms dependent on affection of the intracranial ganglia becomes superadded to them. This group of symptoms comprises certain affections of the eyes, of the articulation, and of the intelligence.

The patient may have diplopia, but it will be only a passing symptom; and she will be likely to have amblyopia with or without optic atrophy; but the most remarkable symptom which appears about this period is the peculiar movement called nystagmus—a rapid simultaneous oscillation of the two globes from right to left and from left to right, sometimes disappearing when the eyes are at rest, but instantly called into play by fixing the gaze on an object.

The defect of articulation is very like that of general paralysis; the same tremor of the lips, the same drawing utterance, the syllables being prolonged and broken into a bleat, and the same difficulty with certain consonants, particularly *b, p, and g*.

The defect of intelligence is of the nature more of a general enfeeblement of mind than of any special defect. The patient laughs and cries with unusual facility, is hopeful or depressed without reason, and loses to a considerable extent her memory, but there is seldom any actual alienation. Dr. Moxon says of one of his patients: "Her intellect was narrowed without uncleanness, so that on the daily course of things before her eyes she replied tolerably well, but could not go much beyond this. There was no delusion, and her conduct and demeanor were always as right as the . . . disabilities allowed."

The complete development of the foregoing symptoms indicates the approaching termination of the first stage of the malady—a stage which dates from the first appearance of the symptoms to the time when the tremulous mobility of the limbs gives place to a spasmodic rigidity, and which may last for two, four, or even six years.

The rigidity characteristic of the second stage begins by slight isolated attacks, which gradually increase in length and severity until the members are reduced to a condition of permanent immobility by the spasmodic contraction of their muscles. At this period the lower limbs take the following position: The thighs are extended on the pelvis, the legs on the thighs, and the feet are in the position of *talipes varo-equinus*. The knees are generally so closely applied to one another that they can only be separated by using considerable force. If the extremity of one foot be taken in the hand and briskly extended, the whole of the corresponding member is seized with a convulsive tremor which reminds us of that produced by strychnia poisoning. This tremor, which may even extend to the opposite limb, and which will continue for several minutes if left alone, may be immediately arrested by sharply and forcibly flexing one of the great toes. The same tremor may be caused by various kinds of irritation, and sometimes develops spontaneously or on attempts at voluntary movement. The complete accuracy of Prof. Charcot's description will be at once acknowledged by those who have clinically studied this curious phenomenon, which, as Prof. Charcot observes, is identical with the spinal epilepsy of Brown-Séquard. It is, however, remarkable that with such complete loss of power, dependent on a spinal lesion, there is no diminution of electric irritability in the affected muscles. Before the spasmodic rigidity appears the irritability is certainly normal, and after the accession of the rigidity the reflex excitability is so great as to render observation exceedingly difficult.

There is one other symptom which the patient is most likely to exhibit at this stage of the malady; this is the occurrence of epileptiform or apoplectic attacks, further development, no doubt, of the vertigo which occurs as one of the earlier symptoms. These attacks may be slight or they may be very severe, even so as to be the immediate cause of death.

With all this motor disturbance there is no anæsthesia, no loss of cutaneous sensibility; and Dr. Moxon remarks that the rule in all organic spinal palsies is that the motor power is lost much more quickly, certainly, and entirely than the sensory power. On this point, indeed, all observers are agreed.

After a period of several months or years the commencement of the third stage is indicated by a general impairment of the vital function. Habitual want of appetite and diarrhoea bring on progressive emaciation; the sphincters lose their power; the mucous membrane of the bladder becomes inflamed and ulcerated; bedsores appear on the sacrum and on every point exposed to pressure, and rapidly increase until they attain enormous dimensions. At the same time the original symptoms become exaggerated, the obscurity of the intellect increases to actual dementia, and the defect of articulation becomes such that the patient can only express himself by an unintelligible growl. When matters have arrived at this pitch death is not far off, and may be brought about by the continuance of the foregoing symptoms or by some intercurrent pulmonary or intestinal affection.

Such is the course of a complete case of disseminated cerebro-spinal sclerosis, but the reader will understand, as before, that these symptoms may be met with in very various combinations, according to the parts of the central nervous system involved in the disease. Sometimes the disease is limited to the cord, and the symptoms are correspondingly incomplete; in other cases the brain only is involved, and then the converse obtains; yet a third class of cases have in addition an unusually complete involvement of the posterior columns, and then the symptoms of locomotor ataxy will be superadded to those of sclerosis. There is a fourth variety which, although very uncommon, is sufficiently important to deserve separate mention. In some cases the patients are suddenly seized with the symptoms of *bulbar paralysis*, better known in this country as *glosso-labio-laryngeal paralysis*, to which they rapidly succumb, the autopsy displaying the cause of death in a recent patch of sclerosis in the medulla oblongata.

The main symptom displayed by the two diseases here considered, the symptom which groups them together and separates them widely from almost all other diseases, in which are to be found their closest resemblance and their clearest difference, is tremor. This symptom has at present attracted little attention, and remains wholly unexplained except by such solutions as are offered by Jaccond, who says: "L'affaiblissement de l'innervation de stabilité est la condition pathogénique du tremblement;" and Charcot, who says: "The transmission of voluntary impulses still takes place through the denuded axis-cylinders, but it takes place in an irregular, jerky fashion, and thus is produced the tremor which embarrasses the execution of voluntary movements." Tremor appears to us a phenomenon of such importance, as well on account of its physiological bearings as from its diagnostic value, that we propose to examine it in some detail.

In a discussion on "tremor in general," which introduces the chapters on paralysis agitans and insular sclerosis, Prof. Charcot insists that a sharp distinction should be drawn betwixt two varieties of tremor. The first variety affects the patients only when they perform voluntary movements; while they are at rest their limbs are perfectly still. The second variety is continuous. Whether they are in action or in repose, whether sitting, standing, or lying, the limbs of these patients are agitated by a ceaseless trembling which leaves them only on the advent of sleep. Prof. Charcot claims, not only that this is a most important clinical division, which it undoubtedly is, but even that the two varieties are physiologically distinct, and he quotes with approbation Van Swieten's classification into *tremor coactus* and *tremor a debilitate*. Although it is with diffidence that we place ourselves at variance with Prof. Charcot on a subject which he has made so peculiarly his own, it appears to us that in

this instance he has allowed his desire for extreme clearness to induce him to make a separation in kind where in nature there is only a difference in degree.

The continuous action of the muscles in health, the unsteadiness of fatigue, the intermittent tremor of sclerosis, the perpetual agitation of paralysis agitans, and the rhythmic action of the heart, appear to us only degrees of the same phenomenon.

The sustained contraction of a voluntary muscle has been shown by well-known experiments to be the result of innumerable separate contractions of the muscle repeated at extremely small intervals of time, thus becoming confluent and producing a uniform effect; in the same way that, if the edge of a card be pressed against a revolving cog-wheel, we hear, not the separate taps of the cogs against the card, but a continuous musical note. If the wheel be made to revolve more and more slowly, the pitch of the note becomes lower and lower until at last the sounds become discrete, and we distinctly hear each separate tap as each cog strikes the card. It is the same with the muscular contraction. If the interval of time between each two successive shocks become greater and greater, the relaxation which takes place after each one has time to become more and more complete, until the continuous contraction becomes first remittent and then intermittent. Hence the sole difference between the rhythmic action of the heart and the continuous action of the voluntary muscles is that in the former the long interval between each shock and its successor allows of complete relaxation, while in the latter no sooner has the relaxation begun than a new shock catches the muscle and recontracts it before the relaxation is considerable enough to be appreciated except by the most delicate instruments. Similarly, the difference between the same continuous action and the remittent action in sclerosis is that the minute interval of the former becomes in the latter great enough to be appreciated by the unaided senses.

The question of course arises, what is the cause of this lengthening of the interval? which involves the question, why is there an intermittent action at all—why is it not continuous? The answer is easy. Not only, as in the foregoing cases, may an intermittent cause produce a continuous effect, but conversely a continuous cause may produce, under certain circumstances, an intermittent effect. The most obvious illustration is supplied by physics. When the disk of an electrical machine is turned, electric tension increases continuously on the prime conductor or until it exceeds the resistance of the air, and then a sudden discharge takes place, which is repeated again and again at successive intervals whenever the tension is brought up to the proper pitch, the rate of production of the electricity remaining constant. Here, then, is an intermittent effect produced by the continuous accumulation of a force opposed to a constant resistance. More than this, it is found that by increasing the resistance, say by lengthening the distance the spark has to travel, the tension necessary to overcome the resistance is increased, and therefore also the time during which the tension must accumulate—in other words, the interval between two successive shocks. Similarly, by diminishing the resistance we may render the shocks more rapid. As a corollary from this we have the necessary result that the longer the interval between two successive shocks—that is, the slower the shocks—the more powerful are they when they do occur. Since it seems to be an established doctrine that the function of nerve-cells is to store up and expend force, the applications of these principles to nerve-muscle phenomena seems quite allowable. The discharge of force from the nervous centre to the cardiac muscles takes place at considerable intervals of time; the effect of each discharge is therefore great, and we have no doubt the reason is that the resistance is great also. The normal discharge to the voluntary muscles takes place, we suppose, under extremely low resistance; the discharges therefore follow one another with extreme rapidity, and the effect of each one is exceedingly small, the visible effect being that of the aggregate of a great number.

Now let us suppose that this resistance is increased, by which, of course, we mean the resistance to be overcome by the nerve-current descending from the nerve-centre to the muscles, resistance analogous to that expressed by (R)

in Ohm's law. The necessary consequence will be that the discharges will be slower and stronger; and instead of the fine remission of normal contraction is produced a coarser remission which breaks the continuity of the normal action into a fine tremor. If, therefore, we can show that in paralysis agitans and sclerosis the resistance to the passage of the current along the nerve-fibres is increased, the tremor is completely explained on purely physical grounds. In the description of the minute anatomy we shall show that the nerve-fibres are deprived of their insulating material, that they are strangled by the contraction of a fibroid growth, by which they are warped and wrung out of their normal positions, and that their diameter is very greatly diminished. There is no doubt that these conditions do materially diminish the conducting power of the fibres; that is, they increase the resistance.

Whether the tremor of fatigue be due to increased resistance or to diminished rapidity of accumulation in the centre is not material to the argument, but the fact that fatigue does cause tremor in healthy subjects, tremor which first shows itself on movement only, and, if the fatigue be greater, at rest also, proves that the two varieties of tremor are not radically distinct.

The description of the morbid anatomy of sclerosis shows that Prof. Charcot carries into the post-mortem room and the laboratory the laborious observation and the same minute attention to accuracy which render him so excellent a guide in the clinic. Taking first the microscopic appearances, he describes the morbid change as consisting in a number of gray patches, irregular in shape but of definite and clearly marked outline, scattered over the whole length of the cord and extending up to the medulla, the pons, the cerebellum, even invading parts of the cerebrum itself and the central ends of cerebral and spinal nerves. On making a section across one of these patches it is found that they extend to variable depths and in the most irregular manner into the substance of brain and cord, so that the surface markings afford no reliable criterion of the extent of tissue affected. The patches have a firm consistence, a clean section, and their colour is a rosy gray.

When a low power of the microscope is brought to bear on a thin section of the cord, it is found that the sharp separation between the healthy and the diseased parts is only apparent, and that really they merge into one another by insensible gradations. Directing our attention first to the healthy portion of a transverse section, Prof. Charcot describes the well-known appearance of the white substance, the numerous disks formed by the cut ends of nerve-fibres, each with its central axis-cylinder and its sheath of myeline. Between the fibres appears the much-discussed connective substance, neuroglia or reticulum, to which, as the seat of the principal and probably the primary change in sclerosis, Prof. Charcot devotes great attention. He adopts the view that the neuroglia is a true lymphoid connective tissue, composed of nucleated stellate cells, by the union of whose processes the reticulum is formed. Although, however, he states some of the objections to this view, he does not mention those which appear to be the most powerful—the argument of Robin that, whereas all the other connective tissue is developed from the mesoplast, the nervous centres are developed wholly from the epiplast; and the observations of Henle and Meckel that the chemical reactions of the neuroglia are the inverse of those of ordinary connective-tissue. However, as Jaccoud truly says, the difference is merely whether we term the morbid change a hyperplasia of a tissue pre-existing or a neoplasia, and the difference makes not the slightest alteration in the clinical significance of the change.

Passing from the normal cord into the peripheral zone of a patch of sclerosis, it is noticed that the trabeculae of the reticulum are notably thickened, having sometimes double their normal diameter. At the same time the nuclei which occupy the intersections of the reticulum have increased in size and number. Jaccoud, following Rindfleisch and Frommann, lays great stress on the accumulation of the nuclei, which he represents as being very abundant, but Prof. Charcot relegates this change into a subordinate position. The nerve-fibres appear more distant from one another; in reality they are diminished in volume, the decrease being due solely to loss of the myeline sheath, the axis-cylinder remaining normal or becoming slightly hypertrophied.

Taking a part nearer to the centre of the patch (zone of transition), the nerve-fibres are seen to be still further diminished. Many of them seem to have disappeared; in reality they have been deprived of their sheath of myeline, and are represented only by their axis cylinders, which have acquired, according to Prof. Charcot, "colossal" dimensions. The trabeculae of the reticulum have become more transparent, their outlines are less definite, and in certain parts they are replaced by long and fine fibrillae like those of ordinary connective-tissue.

In the central region of a sclerotic patch the change has become extreme. The fibrillated connective-tissue is now very greatly developed at the expense of all the other elements. The fibroid reticulum has disappeared; the nuclei have diminished in size and number; the myeline has vanished. Still a certain number of axis-cylinders remain intermixed with the fibrillae, but they have no longer the dimensions that they had in an earlier stage; most of them, indeed, are diminished in size so that they can with difficulty be distinguished from the connective-tissue fibrils. The persistence of a certain number of axis-cylinders is a constant occurrence in insular sclerosis, but probably the majority undergo the change, described by Frommann, of first showing a longitudinal striation, these striæ then breaking up into granules which disappear by absorption. Besides these changes in the normal constituents of the cord, there appears another element which is not found except in disease. Among the nerve-fibres are found bodies of irregular rounded outline, having the double contour and the other physical proportions of myeline. Existing in the peripheral zone in large isolated masses, they become smaller and more numerous as the change advances, until they are at last represented by minute granules which have all the appearance of fat. These granules are not found in the centre of the patch, but only in the peripheral and transition zones; and, as they are there found in great abundance around the vessels and in their lymphatic sheaths, it is probable that they are thus absorbed.

Having studied the successive appearances presented by a patch of sclerosis when examined from the periphery towards the centre, that is, from the most recent changes to the most advanced, we are in a condition to consider what is the sequence of the appearances we have witnessed, which are primary, and which are merely subsidiary. On this head Prof. Charcot has no doubt. Incontestably, he says, the multiplication of the nuclei and the hyperplasia of the reticulate fibres of the neuroglia are the initial fundamental fact, the necessary antecedent. The degenerative atrophy of the nervous elements is secondary. Dr. Moxon, too, says that the minute anatomy is evidently that of chronic inflammation, and describes it as beginning in the medullary rays of the connective-tissue, involving the nerve-fibres secondarily. Jaccoud also speaks of sclerosis as constituted by two acts of the connective-tissue—first abnormal development or proliferation, and then contraction and compression. Rindfleisch is of the same opinion. So that there can be little doubt that sclerosis of cord is strictly analogous to those changes which have so long been known to take place in other organs, in which the same sequence of proliferation and contraction of connective-tissue leads to the same disastrous effects on the structure and function of the organ.

The cause of the peculiar distribution of the patches of sclerosis is at present unknown. Prof. Charcot does not hazard any hypothesis. He states that Rindfleisch has brought forward the notion that the point of departure is in the vascular system—that inflammation of the walls of the small vessels is the first change, and that from these, as from centres, it is propagated. Rindfleisch, however, clearly distinguishes two kinds of sclerosis. In one form there is invariably a thickened vessel in the centre of the patch; in the second, besides other differences, he distinctly states that the behaviour of the vessels is of subordinate significance. The fact that he limits the term sclerosis to the first variety, and calls the other gray degeneration, has probably given rise to Prof. Charcot's error. A second hypothesis brought forward by Dr. Moxon deserves attentive consideration, both from its novelty and from the connection it would establish between disorders at first sight widely different. The supposition is that there is reason to regard insular sclerosis as

eruptive—to look upon the phenomenon of eruption as by no means confined to the skin, but producing characteristic appearances in many other organs. In smallpox the mucous membranes, the inward reflexions of the tegument, show the characteristic eruptions. In syphilis the same kind of action is found in muscles, bones, etc., in the form of gummata. But the closest resemblance to sclerosis is found in the subacute arteritis occurring in patches, which Dr. Moxon has described as *inflammatory mollities*. The fibroid substances in brain and artery resemble each other very closely, and the form of distribution of the charge—round blotches—is the same in both. In either case we meet with a disease of unknown origin, which presents itself as an eruptive outburst of more or less circular foci of subinflammatory action. In neither case is there any correspondence of the figure of the patch with any structural component of the texture. Dr. Moxon believes that both maladies have an essentially eruptive nature, by which he means that the local disease is set up by some agency which is of specific kind and not native in the part in which the change is seen. It is to be hoped that Dr. Moxon will further elaborate an idea of such fruitful promise—an idea which, if really established, will give us a far clearer insight into a class of obscure diseases, and furnish very valuable indications for preventive and curative treatment.

It remains now to consider what is the connection of the symptoms of the disease with the peculiar change in the nervous centres, and here, again, the deficiency of our knowledge is conspicuous. The uniform coexistence of the morbid change with the peculiar group of symptoms described leaves no more doubt of its causal relation to them than of the causal relation of sclerosis of the posterior columns to the staggering gait and electric pains of locomotor ataxy; and this is further confirmed by the fact that in other diseases (cerebral change with descending wasting, pachymeningitis, primitive symmetrical sclerosis, etc.) damaging the antero-lateral columns there occur paralysis and spasmodic rigidity. But in what way it is that change in this region gives rise to these symptoms is at present unexplained. We have endeavoured to show that tremor may be rationally accounted for by the existence of such a condition in the nerve-centres, but to discuss the dependence of the other symptoms on the anatomical condition would, in the present state of our knowledge of the functions of the different regions of the cord, merely lead us into idle speculation.

Our knowledge of the etiology of these, as of most other nervous diseases, is still in a very unsatisfactory condition. It is indeed gratifying that the three things which have so long been credited with the parentage of every kind of nervous disorder—syphilis, masturbation, and sexual excess—seem at length to be losing their time-honoured reputation. None of these is mentioned by Prof. Charcot. The imaginations of pathologists on this subject have been much like that of the celebrated sailor to whom was granted the fairy privilege of having three wishes fulfilled. After he had secured all the rum in the world and all the tobacco in the world by his first two wishes, he could think of nothing further to wish for than a little more rum. After crediting all nervous disorders to sexual excess and syphilis, pathologists have no explanation of a new disease but a little more sexual excess.

It is interesting to note the contrary results to which two excellent observers are led by reasoning from insufficient data. Jaccoud finds that sclerosis attacks young or adult individuals without distinction of sex up to the age of forty-five years, and he has known two cases over fifty. Prof. Charcot considers it established that the malady is much more common in females than in males—that it rarely appears after thirty, and never after forty. Jaccoud finds that of eighteen cases ten are male and eight female. Prof. Charcot, out of thirty-four cases, finds nine male and twenty-five female. Both observers agree, however, in recognizing the powerful influence of moist cold in causing both paralysis agitans and insular sclerosis, and the latter adds vivid emotions as another fruitful cause. In this, as in all similar cases where such very common conditions are arranged as causes of such rare diseases, it is evident that they cannot be the sole nor even the principal causal conditions, or the diseases would be far more common. If, as Prof. Charcot states, the anxiety

caused, for example, by an illicit pregnancy can give rise to sclerosis, the disease would scarcely have remained so long unrecognized on account of its rarity.

Much more importance must be attached to a fact noticed by Dr. Bourneville, that the appearance of the symptoms of sclerosis is often preceded by some acute illness. It is possible that a damaged cord, which was able to perform its functions without great defect so long as the general health was good, gave way suddenly when the vital condition was lowered. This, at least, was suggested as being the case in a patient whom we recently saw with an able pathologist and physician. A woman had centripetal paralysis of all four extremities with muscular atrophy, and she dated these symptoms from her confinement two months before. The view of the case, founded on a general examination of her system, was that she had had disease in her cord for a very long period before the symptoms showed themselves, and that the confinement had brought them out in some such way as this. Suppose a fibroid thickening of the vessels of the cord such as, judging from her clinical history, there was no doubt she had in other organs, so long as the heart retained its full power, the *vis a tergo* would be competent to force the plasma through the thickened walls of the vessel in sufficient quantity to sustain the nourishment of the cord nearly up to the normal standard; but when the heart's power was suddenly much diminished, the cord would be very insufficiently nourished, and its function would rapidly fail. In view of these circumstances a very favourable prognosis was given, it being believed that as the heart regained power the cord would regain its function; and this was fully justified by the event. The patient recovered. The case, however, is not decisive, for she took iodide of potassium.

Keeping in mind the profound alteration of structure on which the symptoms undoubtedly depend, we should anticipate that drugs would be useless in the treatment of this disease. What drug could restore the lost myeline to the nerves, or reconvert the dense fibrillar connective-tissue into cobweb-like neuroglia? We are prepared to hear, therefore, that the whole catalogue of so-called nervines—chloride of gold, phosphate of zinc, nitrate of silver, bromide of potassium, arsenic, belladonna, strychnine, ergot of rye, and the rest—have one and all failed to benefit the patients, although several of them have appeared to exaggerate the symptoms. Rather, we should imagine, by careful abstinence from fatigue and anxiety, by rigorous dietetic and hygienic rules, by the removal of any concomitant maladies or sources of weakness, should the general standard of nutrition be raised to the highest possible pitch; so that, although we cannot renew the damaged patches in the cord, yet, by insuring them a copious supply of pure, rich, well-oxygenated blood sent by a powerful heart, we place those elements that yet remain under the most favourable conditions possible for retaining and improving their function.

Case of Paralysis of the Serratus Magnus.

The recorded cases of paralysis of the serratus magnus muscle are not numerous, and in very few is the paralysis complete. Dr. SAMUEL WOODMAN, Consulting Surgeon to the Ramsgate and St. Lawrence Royal Dispensary, therefore reports (*Brit. Med. Journ.*, Oct. 9, 1875) the following well-marked case:—

Francis E., aged 39, after fifteen years in the service of the Trinity Corporation as seaman, was in November, 1873, promoted to be lamplighter in a temporary ship, the lamps of which (eighteen in number), with reflectors and apparatus, were placed so high above the platform on which he stood, that *all the work was above the shoulder*. In six months after his appointment—*i. e.*, about May, 1874—he felt a weakness in his shoulder. At first, he says, “there was a dead sleepy feeling came down over the shoulder-blade;” and he had a difficulty in raising his arm. In the July following (about a year ago), in coming down the hollow mast of his light vessel, he missed his footing and fell twenty feet or more, bringing himself up by throwing out his elbows as breaks. He does not consider that he injured himself by this accident, or that it had

any effect in increasing the affection of the shoulder. The abnormal sensations soon disappeared, but the "weakness" increased, and it is now many months since he has been able to raise the arm above the shoulder. He did not seek medical advice, but continued to do his work, using the left hand instead of the right; but, on returning home early in May last, after being two months on board his vessel, his wife for the first time noticed that his shoulder was "out," and he came at once to me.

On examination, it was found that the usual signs of paralysis of the serratus magnus were present; but the points particularly noticeable were the bulging of the ribs and the raising of the whole of the affected side (the right). In a state of rest, the tip of the right shoulder was an inch and a half higher than the left; and, in the anterior inferior triangle of the neck, the sharp superior angle of the scapula could be seen and felt projecting only an inch and a quarter from the clavicle. The lower angle of the scapula on the affected side was two and a half inches above and an inch and three-quarters nearer to the spine than that of the sound side. It projected one inch from the surface; and, on raising the arm forwards, it started out an inch and seven-eighths from the side. He was able to raise the arm so that the elbow was within two inches of the level of the nipple, but could raise it no higher. On lifting the left arm to an equal height, the measurement at a point corresponding to the acromial process of the sound side was three inches and three-quarters higher on the right than on the left side. The outline of the neck was formed by the levator anguli scapulae, which was much hypertrophied. The spine was considerably curved towards the affected side, but still the girth of the chest was two inches more on that side than on the other. The serrations of the muscles were very plain on the left side, but were not visible on the right. With the exception of this muscle, there was no loss of power whatever in the arm or shoulder; and, when his arm was once raised, he could hold on or pull as strongly as ever.

The application of the induced current caused no contraction of the muscles, as it had done in cases where the paralysis has depended on neurosis of the long thoracic nerve only; but I believe that in this patient the nervous power derived from the branches of the intercostal nerves, as well as that from the long thoracic, has been exhausted by great overaction of the muscle; and that atrophy of the muscle has accompanied it.

The bulging and elevation of the side are, I think, caused by the efforts, repeated many times daily, to indirectly raise the arm a little higher by raising the side; and the muscles whose action causes it are the scaleni. The long thoracic nerve may be in this way subjected to unusual pressure, which must tend to aggravate the affection and to retard the recovery.

He has been treated by the daily application of faradization and cold douches; his arm has been kept in a sling; and he has taken large doses of quinine and strychnia. Contrary to expectation, in two months very considerable improvement has taken place. How far this will extend remains to be seen.

On the Morbid Changes in the Sympathetic in Constitutional Syphilis.

Dr. P. PETROW, of St. Petersburg, describes (*Archiv für Path. Anatomie und Physiologie*, Band. lvii.) two kinds of changes observed in twelve cases of constitutional syphilis examined by him; some of them affected the nerve-cells, others the connective tissues.

1. In the protoplasm of the nerve-cells he observed, when the cases were not too recent, brown pigmented granules, grouped together or regularly disseminated. When the disease was more advanced, the pigment entirely filled the cell, completely concealing the nucleus. The pigment was derived from the hematin of the red corpuscles. The inner surface of the ganglionic cells had frequently undergone proliferation, so that the cells were lined with a layer of polygonal cells having round nuclei. In many of the pigmented nerve-cells the protoplasm was transformed into colloid material.

2. In the connective tissue was enormous hyperplasia, in which the nervous fibres and cells appeared to be strangulated. The epithelial cells surrounding the nerve-tubules generally participated in the morbid process; they were

turbid and granular, their outlines were more or less defaced, and their nuclei more distinct. In parts which had for some time undergone change, the epithelium of the inner surface of the nerve-corpuscle was replaced by a granular mass soluble in ether; the small nerve-cells were irregular, angular, and loaded with pigment, and at some points were represented only by agglomerations of pigment-granules. The sheaths of the nerve-fibres were thickened, and their nuclei proliferated; the medullary matter was finely granular, and broken up at some parts.

The author concludes that—(1) constitutional syphilis is manifested in the great sympathetic by transformation of the nerve-elements and of the interstitial connecting tissue; (2) the nerve-cells become pigmented, and undergo colloid transformation; (3) there is developed in the great sympathetic, as in all the other organs, hyperplasia of the connective tissue, which atrophies the nervous elements; (4) the epithelium surrounding the proliferated nerve-cells undergoes fatty degeneration at a latter period.—*London Med. Record*, Oct. 15, 1875.

Disease of the Sympathetic Nerve in the Neck.

In the *Berliner Klinische Wochenschrift* for August 9, 1875, Dr. PAUL GUTTMANN relates a case of disease of the cervical sympathetic nerve. The patient, a man aged forty two, up to the last two years had enjoyed good health, with the exception of some slight pulmonary disorder. For about two years he had noticed that, except when he made some excessive bodily exertion, he perspired more freely on the left side of his face than he did on the right. The parts more particularly affected were the forehead, the nose, the chin, the cheek, and the ear. If he exerted himself, this condition spread over the scalp, covering the parietal and occipital parts of the head. The median line was an invariable boundary to this condition. The sweat, which had an acid reaction, stood in large drops over these parts.

When this excessive sweating took place, which was the case on his making even slight exertion, the parts affected became redder, and the temperature in the meatus auditorius was found to be from $\frac{2}{10}$ ths to $\frac{3}{10}$ ths of a degree Centigrade ($\frac{1}{10}$ th to $\frac{1}{10}$ th deg. Fahr.) higher on the left than on the right side. Nutrition and tactile sensibility were found to be equal on both sides. In rest, these differences between the two sides were found not to exist. Still further differences between the eyes were found. The pupil on the left side was found to be larger than that on the right, and the space between the lids on the left side was also larger, there being a considerable amount of exophthalmos. The left conjunctiva was also found to be more injected than the right. These differences were constant, whether during rest or exertion. During the thermo-vascular disturbances mentioned above, the lachrymal secretion was considerably increased on the left side. The sight and power of accommodation of both eyes were normal. With the exception of these abnormalities, and a somewhat phthisical condition of the lungs, there was nothing else to be observed in the patient. Nothing could be discovered from external examination indicating that there was any pressure on the sympathetic, but the nerve on the left side was more sensitive to pressure than that on the right.

Experiments on animals in which the nerve has been divided, have shown that such division of the nerve causes contraction of the pupil, and narrowing of the space between the lids with retraction of the ball of the eye. The conditions observed in the case were very similar to those observed in animals in which the cut end of the nerve has been excited electrically. This would prove that the state of the patient's eye was owing to a state of irritation of nerve. The disturbance of the vaso-motor nerves in the patient as shown by the blushing, sweating, etc., in the opinion of the writer, tends to prove that the centres of the vaso-motor nerves affected, and of the nerves supplying the pupil are placed close together, and in this case were both affected by the same irritation.—*London Med. Record*, Oct. 15, 1875.

A New Method of Treating Strictures of the Larynx.

In a recent lecture (*Berliner Klin. Woch.*, June 28, 1875) Dr. MICHAEL GROSSMANN, of Vienna, gave an account of a method practised by Schrötter for dilating strictures of the larynx and maintaining the dilatation. The cicatricial contraction or the swelling of the mucous and submucous tissues necessitating such treatment is apt to follow typhoid fever, variola, scarlatina, and especially syphilis. The author has been astonished to observe how great a degree of constriction will often be reached before suffocation appears to be imminent, and attributes it to the tolerance due to the slow progress of the trouble. He states that about one year and a half ago Schrötter began to treat these cases by first performing tracheotomy, and then passing elastic catheters through the larynx and drawing them out through the wound. The accompanying pain, the tendency of the wound to contract, and the impossibility of leaving the instrument long enough *in situ*, were serious objections to this plan. His next plan consisted in the use of a catheter, the extremity ending in a knob or button. The tracheotomy tube was first withdrawn, and then the catheter was introduced through the strictured larynx. It then appears that the tube was re-introduced (?) and the extremity of the catheter made to enter the fenestrum on the upper surface. Suitable forceps were then passed into the tube, the catheter grasped by the extremity, and thus firmly fixed. This instrument was left in position several hours, but it prevented the patient from taking anything but the most liquid nourishment, and it could not be borne during sleep. Schrötter then devised a series of small extremity cylinders, made first of hard rubber and then of tin, and about an inch and a half long. These have a brass stem running through them lengthwise, and end in an eye at one end and in a knob at the other. In using them a strong thread, fastened to the eye, is passed through a conductor shaped like a catheter, and drawn tight, so that the cylinder is brought up to the extremity of the instrument. After oiling, the cylinder is then, by the aid of the laryngoscope, pressed down and lodged in the larynx while the knob is seized by the forceps, as in the method last described. The conductor is now withdrawn, and the thread hangs from the mouth and can be fastened anywhere out of the way, as it gives no inconvenience. The little cylinders may be removed or changed once or twice in a day. They act partly by their weight. The first ones used were round. Schrötter has also devised a dilator, working with a screw, which can be introduced into the larynx either from above or below, according to the curve of the handle. Dr. Grossmann finds the galvano-caustic a very valuable adjunct in the treatment of these cases, and says that patients do not find its application so painful as that of caustic potash, or even nitrate of silver. As a further means of keeping up the treatment, even when the tracheal fistula has been allowed to heal, Schrötter employs hard rubber catheters of different sizes, with open extremities, through which the patient can easily breathe, and which he readily learns to introduce himself. In some cases early treatment by these methods has obviated the necessity for tracheotomy.—*Medical Record*, Oct. 23, 1875.

Rheumatoid Disease in Dilatation of the Bronchi.

C. GERHARDT (*Deutsches Archiv für Klin. Medicin.*, vol. xiv.) relates two cases to show that, just as puerperal fever may accompany pyæmia, and rheumatic inflammation of the joints gonorrhœa, so rheumatic affections of the joints may attend bronchial dilatation, as soon as the purulent secretion becomes stagnated through imperfect expectoration. In both cases, many joints were affected; and in one there was endocarditis, with consequent mitral insufficiency. He explains the connection between the primary disease and the joint affection by supposing that the decomposed pus was absorbed and infected the blood. In both cases expectoration was assisted by compressing the thorax during expiration. The dyspnoea and fever ceased under this treatment. Sphygmographic observation showed that the compression had no influence on the pulse, the arterial systole being prevented. In order to

further assist respiration, Gerhardt has applied faradism during inspiration, and has endeavoured to assist expiration by compression.—*British Med. Journ.*, Oct. 16, 1875.

Gelsemium Sempervirens as a Remedy for Cough.

Dr. J. ROBERTS THOMSON, Physician to the National Sanatorium for Consumption and Diseases of the Chest, Bournemouth (*British Med. Journ.*, Oct. 16, 1875), has recently administered the tincture of gelsemium sempervirens, in from 5 to 8 minim doses, to a large number of patients suffering from pulmonary disease, as a cough sedative.

"In some patients, when there existed much bronchial irritation, I have combined it with bromide of ammonium, tincture of squill, and syrup of codeia, and such a combination has often afforded very great relief. In no case, save one, have I observed any unpleasant effect. In that the nausea was only slight, but she was otherwise suffering so much that I did not think it right to persevere.

"These results show that gelsemium has a marked power in subduing cough; that it acts probably as a nervous sedative; that it is useful when other sedatives have failed; that it seldom produces any unpleasant general effect; and that the kind of coughs in which it may be administered with advantage is very varied.

"I believe further investigation will heighten our estimate of the value of this drug in dealing with so troublesome a symptom in the treatment of pulmonary complaints, and that a more extended acquaintance with its action will enable us to differentiate those forms of cough in which it is likely to be of most service. It is undoubtedly a remedy of no mean efficacy, and will, I feel sure, hold a prominent place in our list of *materia medica*."

On a Case of Suppurative Pneumonia successfully treated by Carbolic Acid and Essential Oil of Turpentine.

Dr. ANGELO CIANCIOSI reports in the *Indipendente* (No. 4, 1875), a case of traumatic pneumonia following a stab in the fifth right intercostal space. At the ninth month the wound was cicatrizing, but pus gradually collected in the pleural cavity, and the wound re-opened to give exit to it. Towards the middle of February, 1872, pus began to escape continually, and the patient also had difficult respiration and cough, accompanied by abundant purulent expectoration, fever with slight exacerbations in the evening, diarrhœa, and progressive emaciation. In April of the same year Dr. Cianciosi saw the patient for the first time, and, on exploring the wound, from which issued pus mixed with bubbles of air, ascertained that the lung was penetrated, and arrived at the diagnosis of suppurative pneumonia with pyopneumo-thorax, consecutive or traumatic pneumonia, with effusion of blood in the right pleural cavity. He believed that the disease had become aggravated in consequence of the bodily exertion undergone by the patient when he left hospital to return home, imagining himself to be cured.

The diarrhœa was subdued by decoction of calumba root, and the cough alleviated by morphia. Dr. Cianciosi then gave tonics, and injected into the pleura a solution of fifty centigrammes of carbolic acid in 200 grammes of infusion of cinchona. In about a month there was marked improvement; the febrile state ceased, the expectoration diminished, and less pus escaped from the wound. Oil of turpentine was also given, both by inhalation and internally; also tannic and benzoic acids. Complete recovery took place.—*Lond. Med. Record*, Oct. 15, 1875.

Treatment of Aneurism of the Arch of the Aorta by Means of Galvano-Puncture.

Dr. T. McCALL ANDERSON, Professor of Clinical Medicine in the University of Glasgow, reported to the British Medical Association at its late meeting

(*British Med. Journ.*, Oct. 23, 1875) two cases of aneurism of the arch of the aorta in which galvano-puncture was employed with success, and then gave the following rules to be observed in carrying into effect this mode of treatment:—

The kind of Electricity.—1. The induced, as well as the continuous, current has been employed. A successful case of this kind has been recorded by Mr. Eyre. (*Lancet*, July 30th, 1853, p. 94.) The patient, a soldier, in the prime of life, had an aneurism of the left external iliac artery, about the size of a fowl's egg, which pulsated strongly, and was the seat of a murmur. There were œdema and much pain in the limb. Two long, fine needles were introduced an inch within the sac, each being connected with the wires of a galvanomagnetic machine. The operation, which was accompanied by pain in the groin and violent agitation of the whole body, was continued for twenty minutes. It was followed by severe inflammation, which threatened the patient's life; but, in three weeks, the threatening symptoms subsided, and the patient was cured. The successful result in this case was due to the setting up of adhesive inflammation, which filled the sac with lymph, and was fraught with much danger. Now, it is infinitely safer to attempt a cure by means of chemical than by means of inflammatory action; and, therefore, in every case, the continuous-current battery should be employed; although, even then, unless we are careful, the same result may follow.

2. *As to the kind of battery*, this is of less consequence, provided it is in good working order, and has large cells, so as to increase the chemical effects. I have always employed one of Stöhrer's large-celled batteries; and, in using it, it may be as well, with the view of intensifying the chemical effect, to add to the fluid in each cell, as recommended by Althaus, two drachms of a solution of chromic acid, sufficiently concentrated to impart to it the colour of claret. (*A Treatise on Medical Electricity*, by Julius Althaus, M.D., 3d ed., p. 294.)

3. *The needles* should not be very thick, but very sharp, and should be oiled before being introduced; and, what is of the utmost importance, they should be insulated to within about half an inch of the point: for we must aim at acting upon the blood in the aneurism only, and not upon the walls of the sac, skin, and intervening tissues. This can be done, as recommended by my friend Dr. John Duncan, of Edinburgh, a gentleman who has laboured earnestly and successfully to improve our knowledge of electrolysis as a means of treatment, by coating them with vulcanite. The unsuccessful result of a case upon which I operated in 1873 (reported in the *Lancet*, June 13th, 1874), I attribute in part to the use of needles which were not insulated. These were sent to me along with a Stöhrer's hospital battery; and, therefore, it is all the more important to give a warning against their employment. I have generally only used one needle; but there can be no harm in the introduction of two or more, especially if the aneurismal tumour be extensive.

A point of much moment, and with regard to which there is great difference of opinion, now is:—

4. *Whether the Needles should be connected with the Positive or Negative, or both Poles.*—The balance of opinion seems to be in favour of connecting them with both poles. "I have no doubt whatever," says Althaus (*op. cit.*, p. 651), "that the most effective application of the current is that where both poles are inserted into the sac. This mode of application is also that one employed by Ciniselli and Dr. Duncan of Edinburgh. Both poles are useful in different ways; the positive produces a small firm clot, and the negative a large soft one. Where only one pole is in the sac, the resistance encountered by the electricity is so great that a much larger galvanic power has to be used to produce any effect at all; and, even then, the effect of that pole which remains outside is lost." And yet one of the most successful cases reported by Althaus in the volume from which I have quoted was one of the cases operated upon by me, in which the needle was connected with the positive pole, and in which a weak current was employed. For my part, I prefer connecting the needles with the positive pole only, because I have found it efficient in practice; because the clot which forms at the positive pole, though small, is firm and hard, while that which forms at the negative is soft and bulky; and because on withdraw-

ing the needles, hemorrhage is much more apt to occur; thus showing that the clot is not of a satisfactory character. Hemorrhage, too, is a disagreeable complication; it frightens the patient, and excites the circulation; and, besides, serious injury to the aneurism may result from the manipulations carried out with the view of arresting it.

5. There is much difference of opinion, also, *as to the strength and duration of the current*. For my part, I am clearly of opinion that it is often used far too strong. Thus, in a case operated upon by Althaus (and many equally striking ones have been published), he says: "I applied the current of from ten to twenty-five cells of Smee's battery; so that the positive and negative pole were alternately in contact with each needle, the changes being made every five minutes, so that the whole process lasted twenty-five minutes. The patient complained much of pain, particularly when the changes were made. For the first two days, the tumour decreased considerably in size, but afterwards it increased both in size and pulsation; redness and cedema extended around it in all directions, and the patient died. At the autopsy, the whole of the cellular tissue around the tumour was found loaded with lymph, and much indurated. This diffuse inflammation extended the whole way up the neck, rendering the dissection extremely difficult." (*Op. cit.*, p. 648.) I prefer, then, to use a weak current, and one which gives rise to little or no pain, and which does not excite serious inflammation; and, in two cases just reported, I never employed more than eight cells of Stöhrer's large battery as a maximum, and never continued the operation for longer than an hour at a time. Now, it must not be forgotten that, in using a weak current, at all events, we do not aim at suddenly coagulating the whole of the blood in the sac, but desire the formation of a small firm clot, from which, as a centre, we hope to insure the gradual deposition of successive layers of fibrin from the blood; so that, for the first few days after galvano-puncture is practised, those who are not alive to this circumstance may fancy that the operation has failed.

Lastly, the number of operations, and the length of the intervals between each, must depend upon the effect of those which preceded them.

The rule which I have ventured to suggest as applicable to the electrolytic treatment of aneurism are, of course, likely to require modification as our experience of it increases; but this, at all events, may be affirmed, that the dangers of the treatment are by no means serious if they are adhered to. Thus violent inflammation is not likely to occur if a weak continuous current of electricity be employed for a moderate space of time; while slight irritation is not an unmixed evil, and may be allayed by the application of iced cloths. It naturally occurs to one that clots produced by galvano-puncture, and which at first are soft and presumably easily detached, are likely to be swept into the general circulation, and to give rise to embolism; but, as far as our experience has hitherto gone, this happily seems to be rather a theoretical than a practical difficulty, and one which appears to me all the less likely to occur if the needles be connected with the positive pole alone. The gas which is generated during the operation, no doubt, in part, finds its way into the circulation; but this takes place so slowly and in such small quantity, that no danger is to be apprehended from it. The operation, then, need not cause us much anxiety from the above points of view; but it comes to be a question—and to this the attention of medical men practising galvano-puncture should be specially directed in the future—whether the consolidation of that portion of the aneurism in particular which approaches the surface may not, in some cases at least, favour the extension of the disease in other directions, and lead to internal pressure-symptoms, and to rupture into internal organs.

On a Case of Perforating Ulcer of the Duodenum.

In this case, recorded by LEVERTIN and AXEL KEY, in the *Hygæa* for 1874 (*Nordiskt Medicin. Arkiv*, vol. vii.), the patient, a woman aged fifty-one years, and very fat, suffered from uterine disease, attended with periodical paroxysms of severe pain in the hypogastrium; but otherwise her general health was good.

After a slight attack of pain in the abdomen and constipation, she was suddenly seized with symptoms of peritonitis, and died in forty hours.

At the necropsy, diffuse peritonitis was found; and in the anterior wall of the duodenum, about a quarter of an inch from the pylorus, was a funnel-shaped ulcer, perfectly resembling a perforating ulcer of the stomach. The peritoneum around the perforation was loosely adherent to the under surface of the liver. From the borders of the ulcer two branches proceeded forwards and backwards, so as to nearly surround the intestine as with a ring. The anterior one appeared to be nearly healed, the edges of the mucous membrane being drawn closely together; the posterior one was undergoing cicatrization in some parts, and in another part there was a smaller round loss of substance in the mucous membrane, the base of the ulcer being formed of the thickened and hardened submucous tissue, a small portion of which was loose and perforated as far as the muscular tissue, as if there were a new formation of ulcer in an imperfectly cicatrised one. In the uterus there were found a number of intra-uterine myomata, varying in size from a pea to a walnut; they partly projected into the uterine cavity.

Key regards it worthy of special remark that in this case the unusually large and extensive duodenal ulcer, which was probably of long standing, and apparently in course of healing when fresh ulceration set in, ran its course without any symptoms until perforation and its results occurred. The remarkable fatness of the patient indicated that the ulceration had not disturbed nutrition.—*London Med. Record*, Oct. 15, 1875.

Treatment of Intestinal Obstruction by Electricity.

Basing his remarks on a certain number of observations, and more especially on a case under his own care at the Hospital of Brest, Dr. FLEURIOT advises the employment of electricity to overcome internal strangulations; he used a Gaiffe's battery, and placed one of the rheopores at the anus or in the rectum, and the other on the abdomen.—*Thèse de Paris*, Jan. 1875, and *Glasgow Med. Journ.*, Oct. 1875.

On a Case of Embolism and Disintegrated Thrombus of the Portal System.

G. BOLLING (*Hygiea*, 1874; *Nordiskt Medicin. Arkiv*, Band vii. Heft 2) relates the case of a bookseller, aged thirty-seven, who, having previously good health, was suddenly attacked in June, 1874, with vomiting and fever. The vomiting soon ceased, and was followed by constipation. On July 5 and 6 he had severe rigors, after which icterus set in. Examination of the patient on the latter of these days showed severe fever, and distension of the abdomen, in which was felt a soft tumour extending to the umbilicus, and continuous with the liver; the spleen was enlarged; the urine contained biliary colouring matter and acids. On the 7th, in the afternoon, he suddenly had violent pains in the abdomen, and diarrhœa set in; this was followed by symptoms of severe peritonitis, and he died on the morning of the 10th.

At the necropsy, the left lobe of the liver was found to be much enlarged, extending down to the umbilicus. The free border of the lobe was adherent to the transverse colon: beneath the lobe was a large encapsuled cavity filled with puriform fluid. Similar fluid escaped from two abscesses lying outside the left lobe of the liver, the peritoneal covering of which had burst. Besides this, the left lobe of the liver was filled with abscesses containing thick yellow puriform matter. Dried cheesy matter was also found. Large and small patches with a yellow centre and greenish circumference were also seen in the parenchyma of the liver. All the portal vessels in the left lobe were filled with a yellow thick matter; and in the principal branches of the portal vein was a semisolid mass, which extended into the smaller branches. The omentum was adherent by false membranes in the region of the cæcum, and in one place was rolled up into a cord two fingers thick, which at the appendix vermiformis contained an abscess with green-yellow offensive pus. The veins in the cord

contained partly puriform matter, partly firm fibrin. The spleen was considerably enlarged, with dark-red loose pulp.

Bolling considers that the illness began with perityphlitis and circumscribed peritonitis, which was followed by adhesion of the omentum and formation of unhealthy pus, thrombosis, and breaking down of thrombi in the omentum, and embolism of the left lobe of the liver. The rigors he connects with the incipient breaking down of the thrombi, and the formation of multiple abscesses in the liver. The enlargement of the spleen he explains by blood-poisoning, arising from absorption of the constituents of the bile into the blood or from septicæmic infection.—*London Med. Record*, Oct. 15, 1875.

Primary Cancer of the Gall-Bladder.

M. LAMÉTINE, in the *Journal des Connaissances Médicales* for July 30, 1875 (No. 14, année 43), remarks that primary cancer of the gall-bladder has attracted a good deal of attention since Messrs. Durand-Fardel and Cruveilhier first drew attention to the subject.¹ Secondary deposits of cancer in the liver are common enough. Primary malignant disease of the liver is, however, rare, though formerly regarded as common. We now know that, when nodules of cancer are found in the liver, the primary disease must generally be sought in some other part of the digestive tube, such as the pylorus, the lower end of the rectum, etc. We must not, however, regard primary cancer of the liver as a mere myth, since, although rare, there are carefully recorded cases of it, which are above suspicion. As regards cancer of the gall-bladder, one of its chief clinical and anatomical features is, that in nine-tenths of the cases it is associated with gall-stones, and with retention of bile. A case recently occurring in the wards of Dr. H. Henrot, at the Hôtel-Dieu Hospital at Reims, has many points of interest. It will be found reported at considerable length by M. Chatelain in Bulletin 13 of the Société Médicale de Reims. The patient, a woman aged forty-nine years, had never before suffered from any serious illness. In May, 1873, she became weaker, and lost appetite. In September and October she had feelings of oppression at the stomach, nausea, and vomiting. She lost flesh, had a vague feeling of pain confined to the epigastrium, and was jaundiced. On examining the abdomen, the epigastric region appeared to bulge more on the right than on the left. Palpation gave the impression of a hard and painful "tumour" in this situation. Percussion signs were negative. Tongue whitish; anorexia; constipation. After December 14, 1873, her temperature was noted. It rose to 104.2° Fahr. that night. During the next few days she suffered intense pain in the right hypochondriac region. A violent rigor seized her suddenly. Her temperature rose to 105.8° Fahr., and her pulse to 110 (December 18); a profuse perspiration ended this crisis. Next day her pulse was 84. The sweatings had ceased, and two days afterwards the temperature had fallen to 97.8° Fahr. The left lobe of the liver, though not uneven, was manifestly greatly enlarged. On and after the 23d, there were fresh rigors, with alternate sweatings and high temperatures. On the 28th her temperature was 106.5° Fahr., and from this time she was never quite free from a mild delirium. On the 30th there was more evident bulging of the right hypochondrium. It was clear that the tumour was enlarging. In the mammillary line the liver-dulness was nine inches in depth. The upper border of this dulness was nearly an inch higher than on the 26th. During January the still somewhat delirious patient vomited her food, with glairy mucus; diarrhoea followed, and her stools became extremely fetid, and were passed involuntarily. On the 18th she became comatose and died. At the necropsy, the whole liver was enlarged, measuring thirteen inches transversely by nine vertically. Near the suspensory ligament the left lobe had a small patch of softening, the capsule of Glisson and the peritoneum forming a little

¹ See Villard [*Mouvement Médical*, 1870]; the article "Biliaires" [Voies], by MM. Barth and Besnier in the *Dictionnaire Encyclopédique*; and M. Bertrand's *Thesis* [Paris, 1870], founded on work done in the laboratory of MM. Cornil and Ranvier.

pocket here as large as a nut, containing some greenish purulent fluid. Otherwise the upper surface was healthy. The inferior surface of the liver was almost all occupied by a milk-white mass, of cauliflower-like aspect, rather firm, and on section dead white, and furnished, when scraped, a colourless fluid. The gall-bladder and the hepatic, and common bile-ducts were all comprised within this mass. Microscopic examination showed it to consist of encephaloid cancer. The pylorus was pressed downwards, and the first and second portions of the duodenum had formed a deep channel in this mass of cancer, which had begun to invade the pancreas. Except at the pylorus, the stomach was quite free from disease, but there it was not only attached to but slightly implicated in the tumour. On the posterior wall of the descending portion of the duodenum there was an irregular opening which admitted the finger, which then found itself in a large and tortuous (*unfractueuse*) cavity in the midst of the cancerous mass, filled with a thick, greenish-black, and somewhat viscid fluid. On opening this cavity, a diverticulum was seen, containing from forty-five to fifty gall-stones, composed of nearly pure cholesterine. Here the tumour itself was somewhat reticulated, and contained some small calculi embedded in it. The bile-ducts in the liver, especially in the left lobe, were alternately dilated and contracted, presenting a beaded or rosary-like appearance. There was a little ascites. Reviewing the case, we have, first jaundice, beginning at the age of forty-five, and persisting; next fever, with enlargement of the right lobe of the liver; then a tumour. Diagnosis was difficult; it might be abscess originating in gall-stones. The presence of fever seemed at first to negative encephaloid cancer. It is certainly rare in such cases. Dr. Henrot thought the rigors due to the retention of bile. He also attributed the small calculi embedded in the mass to this retention. In many cases retention of bile (of which the rigors, the high fever, and the delirium were signs) is due to the smaller bile-ducts. In this case the larger passages were invaded by the cancer, and caused the retention.—*London Med. Record*, Oct. 15, 1875.

Treatment of Catarrh of the Urinary Organs accompanied by Ammoniacal Fermentation of the Urine.

According to GOSSELIN and ROBIN, urine in an ammoniacal condition is an active poison, and many of the bad symptoms which so frequently follow operations upon the urinary organs are due to its action. Ammoniacal urine is also very likely to lead to the formation of calculus. It is consequently of great importance to find a remedy which will cure or prevent this condition from being established, and this they consider they have discovered in benzoic acid, which when taken internally is excreted with the urine in the form of hippuric acid, as is the case also with some other substances, as cinnamic acid and the acids of the balsams of Tolu and Peru, and carries off in combination the ammonia of the decomposing urine. Their experiments show that from thirty to ninety grains of benzoic acid may be taken internally without any harm accruing. They begin with fifteen grains, and quickly increase the dose to sixty grains per diem. As the benzoic acid is soluble with difficulty in water, one part requires 607 of cold water; they administer it in a pint of previously warmed solution of mucilage syrup or some aromatic water with the addition of a little syrup of cinnamon. In the course of from five to eight days, the beneficial effects of the benzoic acid are shown in the gradual diminution of the phosphate of lime, pus, blood, and fetor of the urine. In all probability the hippuric acid proceeding from the benzoic exerts a directly curative action upon the inflamed vesical mucous membrane by retarding the decomposition of the urea. They recommend that, in cases when a serious operation is about to be performed on the urinary organs, any ammoniacal alkalinity of the urine should be removed in this way. Dr. FÜRBRINGER has lately communicated the details of four cases of ammoniacal fermentation of the urine occurring in chronic cystitis, in morbus Brightii, and paralysis of the spinal cord, in which salicylic acid, which is so nearly allied to the series of aromatic acids and agrees with them in their antiseptic properties, was administered internally.

The daily dose amounted to from fifteen to thirty grains dissolved in a considerable quantity of water, and made palatable with some aromatic oil. The urine had a smoky, gray, yellow, or greenish colour, possessed a strong alkaline reaction, had a nauseous odour, and deposited a sediment in which were seen, under the microscope, pus and mucus corpuscles, numerous crystals of the triple phosphate, and innumerable separate or associated bacteria in great part presenting lively movements. As early as the third or fourth day of the administration of the salicylic acid, the alkalescence and the putrid smell were considerably diminished, and the sediment became much smaller in amount. After the use of forty-five more grains of salicylic acid, the urine became pale yellow, rather hazy, and distinctly acid, without any disagreeable smell on being evacuated, and under the microscope a few corpuscles and pus in a little mucus were only visible in the small precipitate that formed on standing. In one case of cystitis dromica, the bladder was washed out with a one-fifth per cent. of a watery solution of salicylic acid by means of a double catheter, and the removal of the urinary sediment materially aided.—*Practitioner*, October, 1875, from *Der Praktische Arzt*, June, 1875.

Surgery.

Pathology of Carcinoma.

Prof. BENEKE (*Deutsches Archiv für Klin. Medicin.*, July, 1875), led to the subject by the well-known London discussion, examines at considerable length the pathology of cancer, and ranges himself among the supporters of the doctrine of its constitutional origin. What is meant by constitutional tendency he considers to require explanation. Such a tendency may originate in an alteration of the fluids or of the solids of the body, or of both together. The humoral pathology has been most in favour, and an hereditary diseased material, or otherwise a pathological accumulation of excrementitious matter, such as uric or lactic acid, has been assumed to be productive of the constitutional defect. The former idea of hereditary morbid material is entirely hypothetical; the latter notion, though wanting in demonstration, bears more the aspect of truth; inasmuch as observation proves that a constitutional disorder may be set up by an alteration of the nutritive fluids, as happens, for instance, when the relative proportion of the constituents of the blood has suffered change. Analogy shows in the vegetable world how great a difference in the specific characters of plants, raised from seeds apparently precisely alike, originates from presumably a minute difference in the proportion of their elementary materials. There is, in Beneke's opinion, a great neglect, on the part of observers, of the less prominent and apparently less important constituents of the animal tissues, and too little attention given to the consequences of alterations in their proportions. Although, however, varied proportion of elementary parts has an influence in determining a constitutional tendency, it is not sufficient to explain it. Associated with it is the influence of inborn or acquired departures from normal structure and function—an influence beyond dispute. As examples of structural variations peculiar to individuals are, the greater or less dimensions of the respiratory apparatus, or of the liver, in relation to the other organs, and the very considerable variations in the capacity of the bloodvessels. Such differences, whether associated with humoral changes or altered proportion of the tissue-elements, are known to predispose to peculiar diseases, and they are likewise conditions known to be hereditary.

Beneke's next inquiry is, whether either or both of the above classes of abnormal phenomena belong to the history of cancer. The first circumstance noticeable in respect to this inquiry is, the usually well-nourished condition of cancer patients, when not reduced by the consequences of operation or of exhaustion. This fact he adverts to as employed by Mr. Campbell de Morgan

as an argument against a constitutional diathesis, or the presence of blood disease. But he observes that it by no means indicates the absence of blood changes of a morbid character. The blood of such persons may well be considered absolutely or relatively overcharged with formative matter; or it may be one or several constituents have unduly augmented, and thereby supply an equally efficient cause of pathological changes as a deficiency, or an abnormal mixture, would do.

A second circumstance noted is, the higher or stronger development of the osseous system in cancer subjects, accompanied with (as Beneke's own experiments show) an actually increased proportion of earthy phosphates. Whatever may be the case in the later stages of exhaustion, there is no excess in the earlier phases of cancer either of oxalates or of phosphates in the urine.

A third feature is, that the arterial system is more largely developed in cancer patients; the calibre of the arteries being greater than usual. Of this fact Beneke has satisfied himself by actual comparative measurements made in 200 bodies. In the case of tubercular and scrofulous subjects, on the contrary, a narrowing of the arteries obtains.

A fourth constitutional factor to be mentioned is the tendency to the production of fat, either at the commencement of the disease or else at an earlier period of life. In connection with this circumstance must be remembered the greater liability of women to cancer, and at the same time their greater tendency to accumulate fat. An excessive development of adipose tissue is common in mammary cancer, and where the disease has its seat in the digestive organs, also in the omentum, the appendices epiploicæ, and the mesentery. In like manner in hepatic cancer an increased volume of the liver is observable, together with much bile, and often likewise gall-stones—conditions further indicative of a propensity to the formation of fat.

A fifth point for remark is the decidedly hereditary character of cancer as a sign of constitutional diathesis. Mr. Campbell de Morgan contends, indeed, that this hereditary character offers no proof of constitutional predisposition, because we find hereditary features in a family and other inherited peculiarities which cannot be attributed to blood-taint. But in this reasoning Mr. de Morgan is wrong; he argues against a blood-taint or a peccant matter as if it were the necessary element in the production of a constitutional diathesis, and an assumed necessary entity on the part of his opponents; whereas the latter recognize the necessity of no such special *matrices morbi* to account for the constitutional diathesis, but point to altered conditions and proportions of the humours and to inherited or acquired changes of anatomical structure and function when inherited, originating in all probability in some almost inconceivable changes in the germinal matter of the ovum.

The apparent antagonism of cancer to tuberculosis and scrofulosis is a sixth argument in favour of constitutional proclivity. A seventh may be adduced from the fact of the richness of carcinomatous deposits in the so-called myelin and cholestearin. The abundance of these materials is so much the greater in proportion to the softness and the cellular consistence of the cancer.

As a further argument is the especially significant fact, that the inoculation of cancer-cells has never succeeded to produce cancer. And lastly, cancer patients are peculiar constitutionally by seldom possessing a nervous or sanguine temperament, being, on the contrary, remarkable for a lymphatic temperament and for defective mental and physical energy.

Grouping these arguments together in favour of the constitutional character of carcinoma, Beneke concludes that they possess so much weight that the objections of Mr. De Morgan to the hypothesis fail to overturn them. At the same time he recognizes the force of the arguments against them, and disposes of these in detail more or less completely. After so doing he returns to the question of the nature of the constitutional defect. A constitutional alteration is not, he writes, as a rule, and as commonly apprehended, the result of a single, determinate deviation from the normal condition, either in the composition of the humours, or in the anatomical mechanism; and much less is it the consequence of an imaginary blood-taint. On the contrary, it is, in most instances, a consequence of the concurrence of various departures from the healthy standard; and according to the manifold combinations among the various deviations, will

be the abnormal results in the shape of various diseased conditions. In connection with this view must be accorded a very great importance to the undoubted fact of the inconstancy and the difference in intensity of the several elements (integrals) of constitutional anomalies. It shows the possibility of numerous differences among such disorders, the impossibility of the transformation of one diseased state into another; the latent condition and the temporary exacerbations; the curability of the malady in one case and its incurability in another. The greater the abnormality of the anatomical irregularities, coupled with concurrent alterations, the less will be the chance of cure.

It is highly probable, in respect of the whole group of constitutional diseases, *e. g.*, carcinoma, tuberculosis, and gout, that certain deviations from the normal are characteristic and constant, whilst others are immaterial and inconstant, and that in this way modifications of the entire resultant lesion are brought about.—*Brit. and For. Medico-Chirurg. Rev.*, Oct. 1875.

Nitrite of Amyl in Acute Tetanus.

In a fatal case of acute tetanus after crushed fingers treated by Mr. WAGSTAFFE (*British Med. Journ.*, Oct. 23, 1875) at the St. Thomas's Hospital, with nitrite of amyl, the symptoms were very acute, and it was evident that only temporary relief was given by the treatment. Still the effect of the nitrite of amyl is worthy of record. The most distressing symptom from the first was the difficulty of swallowing, and this, together with the spasm of different muscles, was not in the least relieved by chloral; but it was evident that the influence of the amyl-nitrite was for a time beneficial. One minim was administered by the mouth, at first every half hour, with the effect of diminishing the spasms, so that he was able to swallow with comfort. The dose was increased after two hours to two minims, and then to two minims every quarter of an hour, sometimes inhaled and sometimes swallowed, and, after about two hours, was reduced to one minim every half hour. During all this time, the spasms had almost disappeared; but very marked lividity came on with a spasm, which carried him off. It is difficult to say to what extent the amyl induced this lividity, or whether the cause of death was simply referable to the disease; for, as is well known, cases of tetanus frequently terminate with the symptoms which here existed. But it appeared as if the drug greatly diminished the most distressing symptoms. The *post-mortem* appearances did not throw much light upon the question.

Disinfecting Treatment of Corneal Ulcers.

The affection known as hypopion keratitis, *ulcus corneæ serpens*, etc., is now very generally considered as an infected traumatic keratitis.

Dilute chlorine water and solutions of quinine or of carbolic acid have been employed as disinfectants, dropped into the conjunctival sac, but without pronounced effect. HORNER¹ has instituted a more energetic treatment, with, as it appears to him, very encouraging results. He applied diluted chlorine water with a camel's-hair pencil directly to the ulcer. Though this treatment was employed in only a limited number of cases (fifteen), yet, having had a large experience with other methods, the author was surprised at the rapidity with which the progression of infiltration ceased, and the hypopion was absorbed, as well as at the favourable condition of the eventual cicatrix. In cases where the ulcer is already very extensive, however, this means is insufficient, and Saemisch's slitting through the whole ulcerated portion is necessary.—*Boston Med. and Surg. Journal*, Nov. 11, 1875.

¹ Monatsblätter für Augenheilkunde, xii. 432.

A Method of Performing Iridectomy for the Improvement of Sight.

MR. BRUDENELL CARTER, in a paper recently read at the meeting of the Clinical Society of London (*Brit. Med. Journ.*, Oct. 16, 1875), commenced by referring to the cases in which it was desirable to excise a portion of the iris in order to make an artificial pupil, on account of opacity of the central portion of the cornea or of the crystalline lens; and mentioned the disadvantages attendant upon an iridectomy of the ordinary shape, which extended too far towards the ciliary border of the iris, and uncovered too much of the margin of the crystalline lens, thus diminishing the acuteness of vision by spherical aberration of the rays of light. He described the best attainable artificial pupil in such cases as a V-shaped opening; its base continuous with the natural pupil, and its apex directed towards the ciliary border of the iris; and mentioned the endeavours of Mr. Bowman and of Dr. de Wecker to make such an opening; the former by passing a knife under the iris, and cutting it against the cornea; the latter by thrusting one blade of a pair of scissors between the lens and iris, and the other between the iris and cornea, and cutting a slit in the membrane by closing them. The slit made by either of these methods would gape to the desired extent; but the author condemned both methods as being dangerous, and very liable to produce traumatic cataract or dislocation of the lens. He pointed out that, if Dr. de Wecker's scissors were introduced closed into the anterior chamber, through a small opening in the corneo-scleral margin, and suffered to expand, the iris would rise in a little plait between the blades, and that this plait would be excised by closing them, leaving the pupil which was wanted. The piece excised remained on the upper surface of the closed blades, and was readily withdrawn with them, aided by the final outflow of aqueous humour, or might as readily be removed from the anterior chamber by fine iris-forceps, from which the teeth had been filed away. The author had operated in this manner upon thirty eyes in sixteen patients, with no mischance except the production of traumatic cataract in the second eye operated upon; and he believed that such an accident would be effectually guarded against by directing the blunt extremities of the scissor-blades forwards towards the centre of the cornea. Four patients, each operated upon in this manner in both eyes, were present for exhibition to the Society, but only one of them was introduced into the meeting-room; in this case, the patient (a boy) had blue irides, and the new pupils were well shown. As compared with other methods of making an artificial pupil, the author claimed for this the important merit of simplicity. After the first puncture was made, a single instrument was introduced once into the anterior chamber, was opened, closed, and withdrawn. The iris remained *in situ*; was neither seized, twisted, nor dragged out of the eye, and had no opportunity of contracting any adhesions with the external incision. After a small amount of practice, it was not difficult to regulate both the breadth of the piece removed and its extent towards the periphery, and thus to obtain an artificial pupil of the best shape, of determinate size, and in any position which might be desired, with a minimum of injury or disturbance to other parts of the organ. It need hardly be said that, for the relief of tension, the operation would be almost, if not altogether, valueless.

Subcutaneous Injection of Nitrate of Strychnia in Nervous Deafness and in Disturbance of Innervation of the Intrinsic Muscles of the Ear.

DR. R. HAGEN, of Leipzig, writes in the *Centrallblatt für die Medicin. Wissenschaften*, August 11th, that he first began to use subcutaneous injection of strychnia in nervous deafness in the autumn of last year. After having become acquainted with the results obtained by Dr. Nagel, of Tübingen, from the same remedy in amaurosis and amblyopia, he has employed the treatment in a considerable number of cases with unmistakable effect and long-continued good result. He generally uses one per cent. aqueous solution of nitrate of strychnia, injecting it twice weekly into the integument over the mastoid process, for the most part using no other remedies. The injections are of no use in subjective noises in the ear.—*British Med. Journ.*, Oct. 23, 1875.

A New Mode of Treating Certain Tumors of the Lymphatic Glands.

MR. S. MESSENGER BRADLEY (*Lancet*, Sept. 4, 1875) advocates the following mode of treatment. But "it must be premised that I do not speak of lymphatic tumors generally, but of certain kinds only; thus I do not refer to syphilitic or carcinomatous affections, or to the infectious or soft form of lymphomata, but confine my attention to three groups. First, true hypertrophies of the lymphatic glands, with or without a strumous diathesis; second, strumous hypertrophies—*i. e.*, cases of cellular hyperplasia *plus* caseous deposit; and, third, hard non-infectious lymphomata, which present many points of resemblance to the first groups, and, indeed, are often only distinguishable in being multiple.

"Now, there is perhaps nothing more common than to paint iodine over all the above-mentioned tumours, unless it be the disappointment which results. This, at least, is my experience, the result apparently being the same whether the iodine is painted indiscriminately over the whole gland or whether it is applied, according to Furneaux Jordan's advice, over the contiguous lymphatics rather than over the gland itself; and yet all that seems to stand between this treatment and success is the thin skin which intervenes between the gland and the pigment.

"The first case in which I injected iodine into a tumour did not appear very promising, though it proved perfectly successful. It was an encapsulated tumour, about the size of a large walnut, situated beneath the lower jaw, which I should have removed with a scalpel, had I not once had some unpleasant hemorrhage in a precisely similar case; and as the patient in the present instance lived at some distance, I resolved to try to procure absorption before resorting to extirpation. *The tumour almost disappeared with the first injection*, and after one more it could not be at all detected. I was pleased with the result, because it appeared to me to be so desirable to adopt such a plan at one's consulting-rooms, and in the out-patient room of the hospital, instead of using the knife, which is always more or less terrible to the patient, and which is sometimes, in the most careful hands, followed by unfortunate results. Since the case I mentioned I have been in almost the daily habit of employing iodine in this manner, and I think I may venture to affirm that, by properly selecting cases, a successful result may be assured, while there is no doubt that an indiscriminate use of the remedy will be productive of disappointment. The best cases are those where a single cervical gland is hypertrophied in an otherwise healthy (adult) subject. Five or six injections of the simple tincture of iodine (five to ten minims at a time, according to the size of the tumour), at intervals of about four days, generally effect a cure. The earlier stages of strumous hypertrophies are also very successfully treated by this method, as are the small hard multiple lymphomata; but in the later stages of strumous disease of the cervical glands, where the tumour is broken down into a mass of caseous matter, and the neighbouring skin is blue and undermined, no good results follow from the injection of iodine; and, indeed, these cases are best treated by a careful excision of the disorganized and degenerated glands. I have also recently employed iodine injections in a large and hard fibroid bronchocele, which had been treated unsuccessfully by the internal administration of the drug. The tumour was not only inconvenient from its size, but had almost destroyed the voice, and so pressed on the trachea as to deflect it to the right side of the neck. The case is still under treatment, but the first two injections of ten minims of iodine were followed by the diminution of an inch in the girth of the neck. By parity of reasoning we may expect this method to prove serviceable in uterine myomata and allied growths, but it is to its value as a remedial agent in cases of lymphatic enlargement of the cervical glands that I especially wish to call attention, and I may briefly summarize my results on this head by a tabular statement:—

- "1. *Cases of cervical tumours to be treated by injection of iodine.*
 - a. True hypertrophies of the lymphatic glands without strumous admixture.
 - b. Strumous hypertrophies before breaking down.
 - c. Hard lymphomata.
 - d. Encapsulated cervical tumours, as a tentative operation.

- "2. *Cases of cervical tumours to be treated by incision.*
 a. Strumous glands which have broken down into pus, with or without previous treatment by injection.
- "3. *Cases of cervical tumours to be treated by excision.*
 a. Strumous glands infiltrated with caseous matter, which may be rocked to and fro upon a base of degenerated cellular tissue, with a margin of blue undermined integument.
 b. Encapsulated tumours which have resisted the treatment by injection."

— The Treatment of Patent Urachus.

Dr. J. J. CHARLES, Demonstrator of Anatomy, Queen's College, Belfast, read an interesting paper on this subject in the Surgical Section of the British Medical Association (*Brit. Med. Journ.*, Oct. 16, 1875). After describing the structure and use of the urachus, he said: "From this, it is easy to understand, more especially in cases where the obliteration is less complete at birth than usual, that any obstacle to the flow of urine from the bladder may give rise to undue distension of that viscus, to dilatation of the slender cavity in the urachus, and to the discharge of urine from the umbilicus; and Cruveilhier, I may remark, observed patency of the urachus only in those cases in which the urethra was obliterated. Of course it is possible that patency of the urachus may be due entirely to arrest of development, and there may be no urethral or other obstruction to remove; but such cases are, I believe, of exceptional occurrence. Accordingly, the mode of treatment which appears to be the most rational in the majority of cases of this kind is undoubtedly the removal of any obstruction that may exist to the flow of urine by the ordinary passage, whether that be a phimosis or a calculus. In the cases of patent urachus on record, the treatment has been directed solely to the contraction and closure of the aperture at the umbilicus by the actual cautery or by a plastic operation; but all such attempts, as might be expected, have proved abortive. (Holmes's *System of Surgery*, vol. v. p. 820.) To Professor Redfern is to be ascribed the credit of recommending circumcision; a novel plan for the cure of this abnormality, and one founded, as I have shown, on a consideration of its true nature. In the case I am about to relate, a somewhat similar mode of treatment was adopted with a good result.

"Y., a strong well-developed boy, about a year old, was seen by Professor Gordon and myself in April last. The umbilical cord, it seems, fell off at the usual time; and urine was discharged ever afterwards during micturition at the umbilicus, welling up into the umbilical cup, filling it, and running over in such quantity that the parents had no reason to entertain any doubt as to the nature of the fluid. The urine was passed with difficulty by the urethra, and fell down from the orifice. No tumour was visible at the umbilicus; the prepuce was long, contracted, and adherent to the glans. Tincture of perchloride of iron had been applied to the umbilical aperture to produce contraction, but without avail. I operated for the phimosis according to Dr. Gordon's plan of slitting up the prepuce, as it seems to be very simple and efficacious. A *navus-needle* was passed between the glans and the prepuce, and out through the prepuce at the corona. The prepuce having been grasped longitudinally beneath the needle by a pair of strong forceps, as much of it as was thus embraced was cut away by running a knife through the tissues along the lower border of the forceps. The mucous membrane was separated with difficulty from the glans, then cut freely, and its edges fixed to the skin by two sutures. Dr. Redfern saw the child lately, and has written me to say that, since the operation, the mother has been 'quite pleased to see the urine projected to some distance from the body in the natural manner. Very little urine has come through the umbilicus; but at one period some blood oozed away,' which was readily stopped by the application of tincture of perchloride of iron. 'When I last saw it,' he continued to say, 'there was scarcely any appearance of ulcer or opening of any kind.'

"In some instances where the cure by circumcision has not proved complete, it might be necessary, in addition, to operate directly on the urachus, according to the plans already mentioned; but neither in patent urachus nor in umbilical fecal fistula can we reasonably expect a cure, as long as there is an obstacle to the passage of urine or feces by the ordinary route."

Treatment of the Complications of Gonorrhœa.

When *phimosis* is simple, M. Ricord (*La France Médicale*, Année 91, No. 90) proceeds as follows: The penis is allowed to assume its natural position without any traction being made upon the skin. A line is then drawn with ink on the prepuce, about two lines in front of the circular crest of the gland. A needle, the point of which is protected by a small pellet of wax, is carefully introduced between the prepuce and the glans, and made to penetrate the prepuce from within outwards in the middle line and about one-twelfth of an inch in front of the circular line which has been traced. By this means the skin and the mucous membrane are fixed and rendered incapable of gliding over each other. Behind the needle the jaws of the fenestrated forceps are now placed, and the assistant is directed to screw them together lightly, and a bistoury is made to cut its way through the whole of the prepuce, between the needle and the forceps. The latter being removed the small vessels are twisted, and the two borders of the incision are brought into contact with the aid of serres-fines. After the operation the patient is directed to lie quiet, and an appropriate diet is ordered. Usually the wound unites by the first contraction, and recovery without deformity is complete by the fifteenth day.

Paraphimosis.—In recent and moderately severe cases, reduction should be tried. When, however, it is of old standing, and hard, and when the swelling is considerable, this will fail, and M. Ricord has recourse to the following proceeding: The thick fold of tissue behind the glans is incised in the middle line; a straight bistoury is then passed under the border of the prepuce, and a cut made through it proportionate to the length of the gland; any small bristles that remain must be divided. Two cushions of swollen tissues sometimes remain on either side, which should be removed. Rest and cold applications soon effect a cure.

Vegetations.—Neither mercurial nor iodine treatment is required, but lotions of nitrate of silver may be applied night and morning. After each application the surface should be dried, and covered with a powder composed of equal parts of savin, burnt-alum, and peroxide of iron. If this fail we may have recourse to caustic liquids, such as nitric, acetic, hydrochloric, or chromic acid; or especially the fluid acid nitrate of mercury, with which each vegetation should be separately touched. After a few days they die off, and the little ulcer that is left should be treated as a simple wound. When very large the vegetation may be partially removed with the knife or scissors, and the remainder touched with the carbo-sulphuric paste of M. Ricord.—*Practitioner*, Oct. 1875.

The Wire Compress as a Substitute for the Ligature.

Mr. JOHN DIX, of Hull, reported to the British Medical Association (*Brit. Med. Journ.*, Oct. 30, 1875), at its late meeting, two cases of aneurism of the carotid and one of the femoral artery successfully treated by the wire compress, which he first used in 1860. This method seems to have been used independently and at about the same time by Langenbeck, of Berlin, Pollock, of Pittsburg, Pa., and others. The method consists in placing a wire beneath the artery, and twisting its ends over a cork, which should be firmly pressed down over the track of the vessel. Mr. Dix claims for this method the following advantages:—

The wire compress does not damage the coats of the artery as the ligature does.

It is not a foreign body in the wound, as the ligature is.

Therefore it does not excite suppuration and impede healing, as the ligature does.

It is not a fixture upon the artery, as the ligature is; but it can be removed or relaxed at any time, which the ligature cannot.

It does not ulcerate through the artery, and open the blood channel, as the ligature does; therefore bleeding is impossible; with the ligature there is always the risk, and not seldom the occurrence, of bleeding.

It causes a retarded circulation and gradual occlusion of the artery, so diminishing the risk of gangrene; the ligature causes sudden obstruction, hence gangrene often follows.

Ultimately, or even at once, if desired, it entirely obstructs the current of blood, so curing the aneurism as effectually and as completely as the ligature does.

It affords a wider choice of locality for operation than the ligature does, and is applicable to all arteries alike, which the ligature is not.

As compared with the catgut—

It is not liable to become relaxed or detached too soon, as the catgut is; it does not cut the coats of the artery, as the catgut does.

Thus it confers absolute immunity from hemorrhage, which the catgut does not; it causes gradual occlusion, which the catgut cannot do.

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On Ligature of the Common Femoral Artery, and especially on Ligature by an Antiseptic Material.

MR. OLIVER PEMBERTON, Professor of Surgery in Queen's College, Birmingham, read a paper on this subject at the recent meeting of the British Medical Association (*Brit. Med. Journ.*, Oct. 30, 1875). He first referred to a case of aneurism in Scarpa's space, which he narrated in his Address in Surgery at Birmingham three years ago, and in which, in preference to applying a ligature to the external iliac, he tied what he presumed to be the common femoral an inch below Poupart's ligament. This he did with an ordinary hempen ligature, and left the wound completely open.

He then said: So far as the treatment of the aneurism was concerned, the case did perfectly well; but, when I came to dissect the arteries involved—death having taken place from causes wholly removed from the aneurism—I found the circumflex ilii, epigastric, and profunda femoris given off together; that is, at opposite points of a line drawn from the main trunk a little above Poupart's ligament: the point of the ligature being five-eighths of an inch below these vessels, and the tube of the artery intervening being firmly plugged.

Now, although it is obvious that I really tied here the superficial, not the common femoral, owing to the abnormal origin of the profunda, yet the case affords an overwhelming proof of the fact that an abiding coagulum can form in the immediate vicinity of almost any number of branches on the proximal side of a ligature. If this be so, the chief ground for discarding the operation of ligature of the common femoral disappears.

I wish, however, to show that it is the duty of the surgeon to choose this proceeding in preference to tying the external iliac; a duty that becomes imperative when it is based on the knowledge that he submits his patient to less risk of danger to life from the mere operation; and, what is of equal importance, that he has yet a favourable artery to tie in case of failure. I am fully aware that no mean surgical authority, Mr. Erichsen, lays down the rule of surgery, "That in all cases of aneurism above the middle of the thigh, and in which sufficient space does not intervene between the giving off of the deep femoral and the upper part of the sac for the application of a ligature to the superficial femoral, the external iliac should be tied, unless compression can be successfully employed." From this I dissent, and, as I have already said, because the very reason Mr. Erichsen assigns for his judgment—namely, that the liability to secondary hemorrhage is almost a necessary consequence of the operation, the shortness of the trunk rendering it necessary to tie the artery in close proximity to such large collateral branches that the arterial coagulum

will not readily form—does not, in my opinion, constitute a sufficiently valid reason.

And now I will ask to place on one side for a moment the case I have submitted, and inquire whether this source of danger is not diminished, or even entirely removed, by the use of a ligature composed of antiseptic materials.

A strongly built Italian soldier, aged 33, non-syphilitic, came under my notice at the General Hospital, Birmingham, in May, 1874, with a rapidly increasing aneurism of the left superficial femoral artery. Of very slow growth in its early history, its character was now changed. Reaching to within three to four inches distance from Poupart's ligament, it compassed a space of six inches in extent, was largely raised above the surrounding parts, and was accompanied by strong visible pulsation, by cedema, and severe pain.

After a few days of carefully applied pressure at the arch had proved of no avail, on May 26th I tied the main artery and what should be the common femoral, an inch below Poupart's ligament. I used an ordinary antiseptically prepared catgut ligature, tying the vessel by a single loop, and finishing by a double one. The ends were cut off short, and the wound closed. The contents of the aneurismal sac remained fluid for a long time; and it was not until nearly three months had elapsed that everything was absorbed and the limb restored.

Now, neither at the operation nor subsequently did I follow out the antiseptic method of treating the wound; that healed in the ordinary way by suppuration and gradual repair. I simply desired to permanently close the artery at a given point without cutting it through; and this, I submit, was effectually and safely accomplished, even in the midst of suppuration.

I am not aware of any previous instance in which an animal ligature has been applied to the common femoral, with the exception of Professor Lister's case, referred to by him in his address to the British Medical Association at Plymouth (August, 1871), where, in the face of a diffused popliteal aneurism, he tied what he expected to be the common femoral with a catgut ligature. The vessel, at any rate, as he informs me, was ligatured about the most frequent situation of the origin of the profunda, making the case all the more striking, as the only result he would expect from the application of a silk ligature in such a situation would be secondary hemorrhage.

The principle involved in tying arteries in their continuity by means of animal ligatures may be still on its trial; but I will be bold enough to assert "that the fate or behaviour of a given antiseptic catgut ligature, applied to the continuity of an artery," will yet be foretold with confidence as to the favourable result. And in this I appear to be more sanguine than Mr. Maun-der states himself to be in his recent Lettsomian Lectures on the *Surgery of the Arteries*.

It is, I think, to be regretted, that I was unable to place my recent experience in Mr. Holmes's hands before he summed up his views on ligature of the common femoral in his lectures at the Royal College of Surgeons last year, as I intended doing, thereby strengthening the conclusion at which he arrived—that there was no just cause to banish this operation from surgical practice. The cases of Ramsden, of Mott, of Porter, Maenamara, Colles, and myself, led him to this view with the use of the hempen ligature. Surely the consideration of Professor Lister's case, and the one I now for the first time lay before the profession, should remove from his mind his remaining objection, based on the uncertainty of the place of origin of the profunda; a circumstance, I venture to think, of no real importance, when the canal of the artery is not cut through.

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Spina Bifida Treated by Excision.

DR. MATTHEWS DUNCAN related to the Obstetrical Society of Edinburgh (*Edinb. Med. Journal*, Oct. 1875) a case of this, in which the patient had died of bronchitis some weeks after the operation; and showed the specimen. The child was born with a large tumour (about the size of a seventh-month foetal head) on the middle of the lumbar spine. The tumour was sessile, and its

attachment was about $1\frac{1}{2}$ inches in diameter, and corresponded to a portion of the vertebral column, where the laminae and spinæ were absent. It was firm and elastic, and the mother thought it increasing in size. The skin on it was in some parts natural, in others thin, translucent, and bluish or livid. There was no fluctuation or distinct feeling of fluid in it. The child was healthy and about three months old. Dr. Duncan first tried to evacuate it by tapping, but only a little clear transparent fluid ran out. More was squeezed out. Subsequently it was incised and freely squeezed, much nearly limpid fluid being expressed. The openings made soon healed, and the tumour became as large as ever. It was found to be composed of a myxomatous or oedematous tissue, which was only slightly vascularized. Subsequently, Dr. Duncan cut out a large wedge-shaped slice equal to a half of the whole. The incisions went down to the dura mater, to be afterwards described. This effected a proportional and permanent diminution of the tumour, and the child soon recovered from the operation; the wound being completely healed and the child well. Dr. Duncan intended to complete the excision. But the child, while in good health, twenty-seven days after the operation, was taken out late at night, caught severe bronchitis, and died after two days' illness. The dura mater was, on dissection, found to project from the regular contour of the spinal cavity to the size of about half a walnut, the great mass of the tumour being composed of myxomatous tissue inclosed between this membrane and the distended skin. There was no evidence of inflammation of the membranes of the cord, and during life there had never been any cerebral or spinal symptoms.

Section of Nerves in Neuralgia.

MM. ARLOING and TRIPIER (*Gaz. Hebdomadaire*, Aug. 1875) contributed a memoir on the division of nerves in neuralgia to the medical section of the French Association. The authors consider that the phenomena of recurrent sensibility have not been sufficiently kept in view either in human pathology or therapeutics. By experiment they have satisfied themselves that the property of recurrent sensibility is partaken by nerves at large.

It is well known that it is rare in neuralgia, especially the functional varieties, to find the whole of a nerve-trunk the seat of pain; were it otherwise, no spot on the surface that received fibres from any trunk would be free from pain. As it is, of the several constituent fibres only some are affected. Moreover, neuralgia does not occupy the whole course of nerves or of their branches. The pain is commonly confined to certain limited spots, pressure upon which will at once induce it. As Valleix first pointed out, it is the most superficial nerves that are principally affected, and that their points of emergence on the surface are the chief seats of pain. The trifacial and thoracic nerves constitute the greatest exceptions to these rules. The writers consider that no adequate explanation of the above-named facts has been offered. By the very simple experiment of pressing the ulnar nerve at the elbows, they say, two sorts of pain are shown to exist. If gentle pressure be made, the pain is felt exactly at the level of the point pressed upon; but if the pressure be more severe, the pain is felt deep down. This fact stands in relation and harmony with the results they have arrived at experimentally; viz., that all nerves, motor, sensitive, and sensory-motor, possess recurrent fibres; that such recurrent fibres are more numerous on a nerve as it approaches the periphery, and, per contra, decrease in numbers and finally disappear altogether at a certain distance along the trunk. They are special adjuncts of peripheral nerve-bundles, and are usually placed immediately beneath the neurilemma. These fibres have necessarily some destination; and as they have never been seen to terminate in the thickness of the nerve-bundles, they may be assumed, from the characters noticed, to end at different points in the tissues adjoining the nerve-trunks or their branches. It is these fibres that transmit to the brain the local sensation of pressure on the ulnar nerve, and that, in certain cases of neuralgia, would be affected by morbid agents; whence an explanation is afforded of the isolated painful spots on the nerve-trunks or on their branches. Another

argument in favour of this hypothesis is found in the fact of the diminution, or even the total disappearance, of these fibres above the points indicated by Valleix as the special seat of neuralgic pain, whether spontaneous or provoked by pressure. At the same time it would be an error to assert that these fibres are alone affected in neuralgia; on the contrary, it is probable that they are not always so. Yet it would be equally far from the truth to aver that spontaneous neuralgic pains followed the course of the nerves, for usually they break out at several points at one and the same time, and the painful shooting sensations at one moment ascend, at another descend, and will end at times in a single filament. It is the lines of union between these several points that are assumed to represent the course of the nerves. But this assumption is only imaginary. Again, it is supposable that the morbid agency acts at once both on direct and recurrent fibres; consequently, if we examine the mode of extension of neuralgias from a disordered nerve to another hitherto sound, an additional argument in favour of the views propounded is afforded. It is certain that the extension very often takes place by the medium of the nerve-centres, a fact readily conceivable when it is considered that neighbouring peripheral nerves have commonly also their central fibres in near apposition; but in traumatic neuralgia of a finger it is remarkable to observe that, in place of a neuralgia of the brachial plexus, there is circumscribed pain at the extremity of a collateral and contiguous nerve. The frequent coincidence of trifacial neuralgia with pain of the cervical nerves may be placed in the same category. Lastly, in trifacial neuralgia it is no uncommon thing for the pain to glance from the ophthalmic branch to the mastoid process and the upper portion of the neck. Must it not, therefore, be admitted that the lesion in sensation may be propagated as well by the periphery as by the centres themselves? Still another argument might be gathered from the fact, that in old cases of neuralgia, without appreciable lesion, section of the nerve has completely removed the pain, and that in like manner cases of symptomatic neuralgia have been treated by section of the nerve above the lesion and have relapsed.

Respecting the employment of neurotomy, the writers remark that in neuralgia symptomatic of peripheral lesions, these last must first of all be healed, and that section of the nerve must be of later consideration, for whilst the pain comes and goes the presence of neuritis is probable. In so-called functional neuralgias, likewise, neuritis has also to be borne in mind and dealt with.

We must be guided in our treatment by a consideration of the modifications that supervene on pressure of the painful spot or spots. Thus, if pressure arrests pain on the spot, and, *à fortiori* if it so do when the compression be made higher up, we are right in concluding that the neuralgia has its seat in both the direct and recurrent nerves, and that section of both of these is necessary to give relief. Where the pain is not stopped by pressure, the inference is, that the lesion is situated exclusively in the recurrent fibres, or else in the nerve nearer the centre, or possibly in the nerve-centre itself. To determine if the pain be in the recurrent branches, pressure must be made over neighbouring nerves to ascertain if the pain be alleviated. Supposing it not to be so, we have reason to suspect mischief higher up in the trunk of the nerve or in the nerve-centre itself. Usually doubt may be cleared away by reference to antecedent and to concomitant conditions, and in certain cases by the use of electricity. As a general rule, in complex cases, it is well to make several associated and peripheral sections, with the object of isolating, so to speak, the mesh of fibres on which the morbid agent is operating. By proceedings of this sort Von Graefe has met with great success in dealing with some old and rebellious cases. In the case of a lady at Berlin he made successively seven sections in the orbital region, and effected a cure—a result attributable to the interruption of all the lines of communication with the centre.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1875.

On the Reparation of Fractures.

Dr. H. LEBOUcq, in a short contribution to the *Annales et Bulletin de la Société de Médecine de Gand*, July, 1875, points out the following facts in

connection with the structure of long bones, and the reparative process in these after fracture: 1. The spongy substance of bones presents a special architecture in relation to the function which each bone has to fulfil. 2. The deformities of a bone producing a modification in its statical conditions would also produce a modification in the architecture of the spongy substance. 3. In the special case of reparation of a fracture, this phenomenon would be met with in parts beyond the seat of fracture, and would even extend to parts of the bone which on superficial examination might not appear to have undergone any modification. The modifications of these parts are due to a change which has affected the whole bone. Dr. Leboucq thinks that one may, in describing the reparative process after fracture, distinguish two categories of phenomena. Those of the first phase tend to bring about union of the osseous fragments; they may be comprised in a general formula—proliferation of the osseous tissue and consequent formation of callus. This union takes place under abnormal conditions, the fractured bone being kept at perfect rest. When the function of the bone is renewed after consolidation, the second phase of the phenomena of reparation commences, having for its object the adaptation of the bone to its normal function. The statical modifications in the callus now take place. These are not always of the same nature, and cannot be expressed by the denomination of absorption of callus. Though in some cases, as in simple fractures of the diaphyses of long bone in which consolidation has taken place without displacement, the callus may be totally absorbed in course of a few years, in other cases, on the contrary, certain parts of the callus may acquire an ulterior development and form an integral part of the repaired bone. The statical modifications are not restricted to the tissue of the callus—that is to say, to the newly-formed bone—but extend to parts of the original osseous tissue more or less remote from the seat of injury. A description is given of a right femur taken from the body of a man who died at the age of fifty years. This bone had been twice fractured, once, several years before death, at the upper part of the diaphysis, and again, six months before death, near the lower end of the bone. The union of the upper and older fracture, though firm, was very faulty, the fragments forming a marked angle with much overriding and twisting. The head and neck of the femur were much depressed. Dr. Leboucq examined in a section of this fracture the arrangements of the series of curved lamellæ described by Meyer and Wolff as serving in the normal bone to strengthen the head and neck; and he found that, although the direction of the head and neck of the femur had been much altered, each of the three main series of lamellæ of the spongy tissue had maintained its proper position, or rather that this arrangement had been re-established in correspondence with the surface of application of the pressure of the trunk.—*London Med. Record*, Oct. 15, 1875.

On a Case of Avulsion of the Forearm, attended with Severe Hemorrhage.

Dr. PARONA records this case in his *Rendiconto Biennale di Clinica Chirurgica*, to show that avulsion of limbs does not always occur without hemorrhage.

A workman in a paper-mill, aged fifty-three, had his right forearm torn off in consequence of his hand being caught in the machinery. The accident was followed by hemorrhage, which produced syncope. A compress was applied in the axilla, and the patient was taken to the hospital, where the brachial artery was tied; and on the next day amputation was performed near the head of the humerus. There was subsequently partial sloughing of the stump; but the result was successful, the patient left the hospital cured two months after the accident.—*London Med. Record*, Oct. 15, 1875.

Pathogeny of Knock-Knee.

At a recent session of the French Association for the Advancement of Science, M. LÉON TRIPIER read a paper on the pathogeny of knock-knee, which is published in *La France Médicale* of September 29, 1875. It has been

usual to consider this affection as having an habitual connection with rachitis, but M. Tripier has observed that very young patients affected with knock-knee do not show old or recent traces of rickets, and that both limbs are not always affected. In eight or nine-tenths of the cases observed by him no traces of rickets were present, and more than half had only one knee affected. Moreover, where a double deformity was present there was always a difference in the amount of the deformity of the two limbs, a point which the writer considers of great importance.

The author's researches have shown that knock-knee appears particularly at the periods which correspond with those when the normal increase of the skeleton is most rapid. It is a law complementary to those laid down by M. Broca relating to the appearance and development of rachitic lesions, and by M. Ollier regarding the unequal development of the extremities of the long bones. From sections of the bones of a great number of subjects of different ages, and from measurements of the intermediate cartilage, that is, that between the shaft and the ends (increase of height), and of the diaphysis at the middle and the two extremities of the bones (increase in breadth), M. Tripier has found that knock-knee appears especially between three and five years of age—sometimes a little earlier—but most often between fourteen and seventeen, or at the time of the solidification of the skeleton, from twenty to twenty-five years for males and a little earlier for females. His researches, having shown him that at these periods the increase of the intermediate cartilage at the inferior extremity of the femur is especially argued, have led the author to ask whether this fact does not afford sufficient explanation of the appearance of so great a number of knock-knees unaccompanied by any old or recent symptoms of rickets. This being admitted, it remains to consider why, when both knees are affected, one is less so than the other.

The disease appears most frequently in bakers, cooks, locksmiths, and carpenters: in a word, in those whose work compels constant standing. In the erect posture we do not naturally incline equally on both feet; we bear our weight more upon one limb than upon the other. Thus the centre of gravity of the side which bears the weight passing with regard to the femoral line more to the outside than to the inside, and this pressure coming on one side at the time when the growth is taking place most rapidly, accounts for the inequality in the development of the lesion.

Experiments made upon young rabbits and kittens, bent pins being used to hold their bones in unnatural positions, confirmed the author in the views he had entertained regarding the disease in question. He attempted to make observations upon those employed in various factories where both sexes are compelled to work standing, but insuperable difficulties prevented any satisfactory investigations.

In conclusion, the author recommends for the malady a tonic treatment, and various mechanical contrivances for the correction of the deformity. He does not favour the disjunction of the epiphysis, a plan proposed and carried out by M. Delore. If he had a very rebellious case, he would prefer to make very fine subcutaneous punctures into the intermediate cartilage on its inner side, and then put the limb into an immovable apparatus. Thus he would hope to arrest the increase of the side where it was most marked, and to re-establish the equilibrium; nevertheless the danger is great where the joint has to be penetrated.—*Boston Med. and Surg. Journal*, Nov. 11, 1875.

Midwifery and Gynæcology.

On a Modification of the Ordinary Forceps to enable Traction to be applied to the Centre of the Blades.

M. LAROYENNE (*Lyon Médical*, August 22), in order to carry out M. Chassagny's fundamental doctrine that "the force should be directed on the centre of a body which has to engage and pass along a curved canal such as

the pelvis," has the ordinary forceps blades pierced at the anterior and posterior margins, corresponding to the centre of the head seized by the forceps, through which he passes a strong piece of tape, threading them from within outwards; each blade having a separate tape. The instruments are applied in the usual way; the four ends of the tape are then tied together and traction made upon them, the handles of the forceps being used as a rudder to steer the head into whatever position it is thought requisite. Its mode of action he describes as follows: The power in the middle is represented by the strings of tape, and the resistance by the diameters of the head which fix it at the contraction. If the handles of the forceps be depressed, or what is the same, let alone, the beneficial effect of the power undergoes a proportionate diminution, by the shortening of the arm of the lever represented by the handles of the instrument. Traction can be assisted by concurrently elevating the handles of the forceps without supporting them against the pubic arch. This action, which tends to lower the portion of the head contiguous to the sacral promontory, constitutes a power of which the fulcrum is in front against the anterior wall of the pubes, and the resistance behind at the level of the promontory. By alternately drawing the strings from one side to the other, the direction of the force can be varied without the danger of doing the mischief that is apt to arise in the use of the forceps, where great care and skill are not exercised.

Clinical experience has convinced M. Laroyenne of the readiness of application of this modification, of its safety, and its advantage, and he strongly recommends its use when there is any contraction or disproportion of the pelvis needing instrumental aid.—*London Med. Record*, Oct. 15, 1875.

On Uterine Hemorrhages consecutive to Parturition.

M. BOUCHACOURT read the first part of a paper on this subject before the National Medical Society of Lyons, on July 19, 1875 (*Lyons Médical*, Aug. 22). He considers the following to be the chief causes:—

1. Retention of urine, which catheterization arrests.
2. Laxity of the abdominal walls, which a binder prevents.
3. Too rapid change of bed. Five or six hours should at least elapse before the patient is moved.
4. The too hasty removal of the soiled linen.
5. Warmth of the bed, room, or the application of too warm things to the abdomen.
6. Frequently recurring pregnancies are an incontestable predisposing cause.
7. Fibroids; but practice has not fulfilled theoretical apprehensions.

He advocates injection, and plugging especially, with perchloride of iron, in preference to the old routine practice.

He relates a case where a patient was seized with violent endometritis on the third day of delivery, from plugging the vagina and uterus with pledgets saturated with perchloride of iron. On examination, three months afterwards, a circular band about three centimetres from the vulva permitted only the passage of the uterine sound with difficulty. A five month's dilatation enabled him to examine the cervix, which was almost gone, without the least trace of an os.—*London Med. Record*, Oct. 15, 1875.

On the Genesis of an Epidemic of Puerperal Fever.

This paper, read before the New York County Medical Society by Prof. W. T. Lusk (*Medical Record*, Oct. 30, 1875), based upon an epidemic of this fever which made its appearance in the lying-in ward at Bellevue Hospital in the earlier months of the year 1874, and the object in view was future guidance and warning which might be obtained from a careful tracing, as far as possible, of its origin, progress, and growth. Hospitalism was not regarded as a distinct entity which can at once be recognized and identified, but a knowledge of the workings of the agent must come from an acquaintance with all the elements

which may possibly generate its noxious influence. To this end a careful record of the history of every case had been made, noting the development of the slightest symptoms, the condition of the patient mentally and physically, both before and after confinement, the transfer to other wards, the measures adopted to insure cleanliness, etc. etc.

The mental condition was noticeable in a few cases, and doubtless, had very much to do with the unfavourable termination. Some of these were the mothers who gave birth to illegitimate children, and suffered severe mental depression on that account, while others were thrown into a fearful degree of mental emotion, by the upbraidings of relatives, etc. A certain number of cases terminated fatally, in which the fatal issue was easily traced to well-known causes, such as spontaneous rupture of the uterus, decomposition of placenta and child, rupture of abscess into peritoneal cavity, etc.

Many patients were removed from the puerperal to the medical wards, with the hope that the epidemic might be checked in that way; but from a careful survey of the whole field it was found that this change did no good, and then the confinement ward was closed entirely, and another ward having an excellent reputation was placed at the disposal of the obstetricians. The confinement ward remained closed about two months; was subjected to free ventilation and cleaning, and then reopened, but the sequel proved that the epidemic had not been arrested. During the time that the ward was closed and another occupied, several fatal cases occurred, but the proportions of the epidemic were considerably reduced.

A change of physicians was next made, and the sequel proved that that wrought no particular change in the results obtained in the service, for the occurrence and fatal termination of the disease were as frequent among the patients as before the change was made.

It began to be evident that there was a transmission of the disease from patient to patient, mainly through the agency of nurses; and now the physicians on duty, Drs. Perry and Murray, assumed almost entire charge of the patients, administered the medicines, changed the beds and bedding, and cleansed the genitals of the recently confined women themselves. It was found necessary to do this, for the reason that the nurses would syringe patients having fetid discharges, and perhaps within two minutes be cleansing the genitals of a newly confined woman, and that without exercising a degree of precaution worthy of the name. These physicians, therefore, assumed these duties themselves to a very great degree. They carefully washed their hands in carbolized water before passing from one patient to another; never used about a patient any article which had been previously used, if it could possibly be avoided; insisted that each patient should have her own syringe and catheter, thereby securing, under the circumstances, the most perfect isolation possible of one patient from another. In this way, be it to their credit, very much was done towards reducing the mortality; but unfortunately the provisions of the hospital were inadequate, and the proper amount of material, such as cloths, napkins, sheets, etc. etc., was not at the disposal of the attendants. These were some of the items to be taken into consideration in making up an estimate of the genesis of the epidemic or the condition of the hospital.

The evidence of direct communication from midwives to patient was so patent, that an increase of nurse force was asked for, but the request was refused by the Commissioners of Charities and Correction. An attempt was then made to obtain aid from other sources, but the demoralization which took place among the nurses already present gave rise to a fearful increase in the epidemic, which exposed most completely a source of transmission that had been in continued existence throughout the course. Two nurses, and only two, were finally added to the force, and the results were marked and beneficial. The obstetrical service, however, was finally broken up, and transferred to Charity Hospital on Blackwell's Island. From the history of the epidemic the professor drew two conclusions.

First—Puerperal diseases may be engendered by atmosphere alone. The nature of the poison is conjectural, but removal of patients to an unaffected

locality changes the character of the disease, and the closure of the infected ward for three or four weeks usually restores it to a healthy condition.

Second—In distinction from the above, there is a form of puerperal fever poison with immensely contagious properties, not primarily derived from a miasm, but capable of generating a most fatal disease.

There are two things which may be noted. First, Prof. Lusk, during the entire epidemic, was in the wards two or three hours daily, and yet not a single case in his private practice developed an unfavourable symptom.

Second—Three months later the obstetrical wards of the hospital were occupied by the surgical service, under the charge of Prof. James R. Wood, and in it were treated several cases after capital operations, such as amputations, exsections, etc., and not a single case of pyæmia or septicæmia occurred.

Epidemic Puerperal Fever.

In the course of some remarks elicited by the preceding paper, Dr. FORDYCE BARKER (*Medical Record*, Oct. 30, 1875) said: "I cannot resist the conviction that the study of the genesis of puerperal fever is the study of a distinct essential disease which attacks puerperal women, and only puerperal women."

"The great practical end in view in the study of the genesis of puerperal fever is, to ascertain what causes of the disease are preventable. A very great advance has been made within a few years in our knowledge of the various agencies which contribute to septic poisoning, and still more striking has been the addition to our resources in the use of antiseptic remedies. Every intelligent obstetrician appreciates, at the present day, as they did not in former periods, the great importance of averting all the predisposing causes of the disease in the patient herself, by an efficient treatment of anæmia and albuminuria in the last periods of pregnancy, a condition which so tends to blood deterioration, and which so favours the absorption of septic poison—by securing to the patient perfect ventilation and good air during labour and the puerperal period, and avoiding the old error of keeping the room too hot, with every crevice closed that will admit air; by preventing delay in labour, in the early resort to the use of the forceps or other resources of our art, when necessary; by effecting the early removal of the placenta by compressing the uterine, thus securing the efficient and permanent contractions of this organ, and thus preventing the retention and decomposition of clots, and the torture and exhaustion of after-pains; by removing immediately after labour all soiled clothes and bedding, and carefully watching that none are ever after permitted to contaminate the patient; by antiseptic washes and injections, to prevent autogenetic poisoning; by good nutrition; and lastly, by guarding the patient against the dangers of infection or contagion through the medium of the nurse or the obstetrician. This is a very rapid and by no means complete exposition of the resources we have at command for averting danger from puerperal fever.

"But there still remain, as great determining causes of this fearful disease, nosocomial malaria and epidemic. How to overcome and to exterminate nosocomial malaria is the great problem which I confidently hope will be solved by the progress of science at no remote period. The devastation which results from this cause, in obstetrical and surgical hospitals, has led some to the extreme folly of questioning the usefulness of hospitals, and others to urge as a radical necessity the extravagantly expensive procedure of pulling down all the old hospitals, and of reconstructing them of such materials that this process can be repeated every few years. But, in the first place, this is not demonstrated to be a radical preventive of the septic diseases which result from nosocomial malaria, for there are well-authenticated reports of puerperal fever in new hospitals for maternity, and of pyæmia and of septicæmia in new surgical hospitals among the first patients received into them. In the second place, I cannot believe that chemical science is so powerless as to fail in finding some means of wholly exterminating this miasm. The experiment has been already successfully tried in this city. I was struck by the remark in the paper of Dr. Lusk, that after the lying-in wards at Bellevue were given up on account of puerperal fever, they were occupied as surgical wards in the service of Dr.

James R. Wood, and that not a single case of septic disease has occurred in them. I am informed by Dr. Dennis, house-surgeon at the present time, that there have been eighteen amputations in patients in these wards, and not a single death. But in some of the surgical wards the fatality from septic disease was really frightful, as reported by the surgeons in attendance; and Prof. Doremus was employed by the Commissioners to disinfect them. I will give his method of procedure, as I wrote it down from his verbal statement to me.

"The purification of the surgical wards in Bellevue Hospital was accomplished during the spring and summer of 1875, by the employment of large volumes of *chlorine* gas.

"This powerful disinfectant was resorted to because all the poisonous emanations from the human system are decomposed by it, and thus rendered inert (carbonic acid gas excepted); also because of its diffusive power. Strips of paper were pasted over the crevices around the windows and doors, before generating the chlorine.

"Two sheets of lead about eight feet long and four feet wide were turned up at their edges and placed on the floor of the ward to be treated.

"In these leaden receptacles several hundred pounds of black oxide of manganese and common salt were placed, to which water was added until the mass, when thoroughly stirred with wooden shovels, had the consistency of a thick mud.

"Bowls, basins, and pitchers of sulphuric acid were placed around the leaden vessels in readiness to be applied to the black mixture. To eliminate all the chlorine, the acid should equal the weight of the salt and manganese combined. Water was then poured over the floor to dampen the wood, and the ward was filled with steam until the moisture condensed on the ceiling and walls. The air of the room was so saturated with partly condensed vapour that we had to grope our way towards the vessels containing the sulphuric acid.

"The several assistants then held said vessels over the mixture of manganese and salt, and at a signal all poured out the acid at the same time; then hastened to the second leaden trough, applied the acid and rushed out of the door to escape inhaling the chlorine gas which was liberated in immense volumes. Since the amount of poisonous gas was so great that it would have proved fatal to any one entering the apartment, the doors were securely fastened to guard against such an accident.

"After the lapse of twenty-four hours, the vessels were again filled with sulphuric acid and placed around the leaden pans. The mixture was then rapidly stirred, and the second application of acid made as in the first instance.

"For these two treatments about a carboy of sulphuric acid (160 lbs.) was employed.

"After a second twenty-four hours' exposure of the ward to this gas, the windows were thrown open, the residuum of sulphate of manganese and sulphate of soda was removed, with the leaden and other vessels, and the walls and floor scrubbed and dried.

"The chlorine was generated by this method, rather than by the addition of hydrochloric acid and manganese, not only because it is cheaper, but because the heat generated by mixing sulphuric acid and water rarefies the gas and facilitates its dissemination through the room and its passage into the porous walls.

"Chlorine is comparatively inefficient unless moisture is present, hence steam was employed as described.

"After one ward had been thus disinfected and ventilated, the same large leaden vessels were taken to an adjoining ward and the process repeated.

"Especial stress is laid on the importance of generating enormous volumes of the chlorine gas, that it may thoroughly permeate the walls. As its odour is very pronounced, persons are liable to err in regard to the quantity, and they merely produce a bad smell and signally fail to destroy the virus with which old or even new walls are at times impregnated.

"The *water-closets* were purified by the use of *ozone*.

"This active form of oxygen was generated by mixing equal weights of manganate of soda and sulphate of magnesia in a dry state, and sprinkling

this mixture in and around the basins at night, so that it might remain for a longer period than if applied in the daytime.

"When brought in contact with water, *permanganate* of soda is produced, which decomposes in contact with the impurities of the sink, and evolves ozone, by which agent the disgusting and poisonous substances are decomposed, deodorized and rendered harmless.

"This treatment was repeated to secure purification.

"One hundred pounds of manganate of soda, and the same weight of sulphate of magnesia, were employed. For generating the chlorine in the different wards over five thousand pounds of the black oxide of manganese, twenty-five sacks of salt, and the equivalent of sulphuric acid were used.

"Since this disinfection of the hospital, I am informed by members of the House Staff that there has been but one case of pyæmia or other septic disease in the hospital, and this was a very doubtful one. By the methods adopted by Professor Doremus, or some other method improved by the progress of chemical science, who can doubt that in the future we shall find hospitals as securely freed from nosocomial malaria as we are now protected from smallpox by vaccination?"

Distension of the Urinary Bladder mistaken for an Ovarian Cyst.

One of the most mortifying mistakes in diagnosis that can be made, and yet one that is by no means infrequent, is that in which an abnormally distended bladder is thought to be an abdominal tumour of importance. Misled by the occurrence of apparently free discharge of urine, the clinical observer has been known to diagnose a pregnant uterus when there was only hysterical retention of urine, and when the timely use of the catheter has caused the disappearance of the tumour and the pregnancy at once. Dr. Murchison records a remarkable case of enlargement of the abdomen in an elderly male, which was justifiably believed to be hydatid tumour of the liver, but which, on tapping, yielded twenty-four pints of urine. Another case has been recorded in *Le Progrès Médical* (May 15th), which is highly instructive. The patient was a female, thirty-two years of age, in whom menstruation had ceased for three months previous to her admission into Lariboisière Hospital, under M. Jaccoud; but there were no definite signs of pregnancy. Ten days before admission she experienced pain in the abdomen, which rapidly began to enlarge, and was soon followed by œdema of the lower extremities and genitals. There was a tumour in the median line, occupying the hypogastric and umbilical regions, reaching to four finger-breadths above the umbilicus, descending below into the pelvis. The cervix uteri was out of reach when vaginal examination was performed; and at first the opinion was that the tumour was ovarian, which was replaced by the hypothesis that it was a distended bladder, from its rapid growth, the pain at its onset, and the difficulty experienced in micturition. Catheterism yielded about a pint and a half of urine, and the bladder was thought to be completely evacuated. M. Jaccoud deferring a complete examination until the next day, the patient was seized in the night with dyspnœa, to relieve which the tumour was aspirated, and nearly eight pints of urine were drawn off, the last portions being blood-tinged. Before the operation the catheter had been employed, so as to be sure that the bladder was empty. Death occurred in six hours, the post-mortem examination showing a uterus between the third and fourth months of pregnancy, and great dilatation of the bladder and ureters. The seat of puncture was sought for in the walls of the bladder without success. No mention is made of the reason why catheterism failed to draw off all the urine.—*Lancet*, Oct. 9, 1875.

Medical Jurisprudence and Toxicology.

On Poisoning by Santonin, and its Treatment.

BECKER (*Centralblatt*, No. 33, 1875) made his investigations in the laboratory of Professor Binz, stimulated by the occurrence of a case in Bonn. A delicate child, two years old, was violently convulsed ten hours after taking two santonin lozenges (each containing 0.05 gramme of santonin). In each attack the convulsions began in the face, then extending to the extremities, and finally arrested the respiratory movements for some time in an alarming degree. The 3-7 pair of nerves was clearly the part of the nerve centres affected. The treatment consisted in warm baths, enemata containing acetic acid, diluents and artificial respiration by compression of the thorax. The attacks continued during three days, becoming progressively weaker and less frequent. The greenish colour of the urine continued during the whole of this period.

Similar symptoms followed the exhibition of santonin in poisonous doses to rabbits and young cats, to which, however, relatively larger doses required to be given. In the animals so treated, inhalations of nitrite of amyl, and injections of morphia, produced no effect. Chloral hydrate, on the contrary, given before the poisonous doses of santonin, prevented the convulsions. Inhalation of chloroform acted promptly, but is dangerous in cats and rabbits, on account of its action on the respiratory centre. Inhalations of ether, when given on the first convulsive movements of the eyelids and ears being observed completely suppressed the attacks; given at a later stage, their duration was shortened by a half; and when the animal was kept in a light ether-narcotism, did not recommence.

An animal treated by ether inhalations, completely recovered within a few days: an animal which had received a like dose, but was not so treated, died in from three to four hours. From these experiments, it is inferred that an appropriate treatment in the human subject would be found in the rhythmical compression of the thorax, until ether could be procured; and after the most pressing danger had passed, in the exhibition of the chloral in cautious doses. To eliminate the poison, laxatives and diluent drinks.—*Edinburgh Med. Journ.*, Oct. 1875.

Hygiene.

Defective House Sewerage and Disease produced by it.

Dr. JAS. D. TRASK, of Astoria, Long Island, reports (*Medical Record*, Oct. 16, 1875) a remarkable group of disorders in one family, the result apparently of a defect in drainage, which is so interesting and instructive in its details that we reprint it in full.

Oct. 23d, 1873, I attended Mrs. A. B., in her sixth confinement. The house then occupied by the family is but a few years built, and contains the ordinary modern conveniences. Mrs. B.'s convalescence from her confinement had been unusually slow, which was attributed to her previously delicate health, when on the sixteenth day from delivery she was suddenly seized with symptoms of acute peritonitis. The fever was high, pain excruciating, tenderness extreme, and there was frequent vomiting. Large and frequent doses of morphia were required to subdue the pain, producing at times deep narcotism.

After five days the severity of the symptoms abated. There was still great tenderness and tympanites for a week or more following, with irritable stomach and great muscular prostration. On the 25th of November the acute symp-

toms broke out again with almost their original severity. From this time onward, throughout the month of December, there were periodical exacerbations or relapses, of which she had five very distinctly marked. The earlier attacks were regarded as peritonitis. Quinine was given in large doses from the first, the patient being unusually tolerant of it, and such nourishment as could be borne; but in a short time nothing but small quantities of liquid diet could be retained.

In the early part of December she was seen by Dr. Fordyce Barker, who expressed the opinion that, whatever might have been the nature of the original attack, the present existing pain was to be regarded as caused by neuralgia of the peritoneum. Dr. B. advised pushing the quinine to the extent of producing its full physiological effects. After the 1st January Mrs. B. gradually convalesced, and was able, by the 21st of February, to sail for Florida.

On the same day on which the mother was taken ill, as above described, her oldest son, who had been sent to the house of a relative, was taken with symptoms of fever of a continued type, which soon became severe. There was great prostration, no decided diarrhœa, no rose-spots. The sickness continued four weeks.

One week from the seizure of the mother and son, the cook, a woman of about sixty years of age, was taken down with a fever similar to that of the son, accompanied by rose-spots and diarrhœa, of which she eventually recovered.

On the same day the wet-nurse of the infant took her bed with what, after her subsequent removal to St. Vincent's Hospital, turned out to be cerebrospinal meningitis, of which she recovered.

One week after this two more of the children, who had been kept away from the house for at least three weeks, were seized with symptoms like those of the first child, and were sick for about three weeks. The infant died when three weeks old, but from causes disconnected with the house chiefly.

Of the remaining members of the family, the youngest child, but a little over one year old, who was retained at home with its nurse, suffered also from serious gastric disturbance, with marked general depression, and slight febrile excitement. Of a family of ten, only the nurse of the young child and the husband escaped illness in some form during the time of the protracted sickness of the mother.

Immediately upon the occurrence of the illness of the cook and wet-nurse, in connection with that of the mother and son, the conviction was forced upon the mind that there must be a common origin for all the attacks. Inquiry revealed the fact that at times unpleasant odors had been recognized in the parlors, especially in the vicinity of the folding doors. Carpenters had already been employed to ascertain the source of this, and plumbers had examined the waste pipes and reported everything unimpeachable. It was now resolved that a thorough overhauling of the premises should be instituted. This was made by those regarded as competent, and nothing out of the way found. The more the subject was reflected upon, the more confirmed became the conviction that the evil was in connection with the waste-pipe, at some point that had as yet eluded discovery. At length, after days had been spent in fruitless search, under the belief that Mrs. B. could not recover so long as the atmosphere of the house was poisoned, I insisted upon such an examination as should settle the point in dispute, and at last the source of escape of the mephitic gases was discovered in an imperfect joint, just at the point at which the pipe was about to pass under the cellar wall into the main sewer; this leak being so situated as to allow the gases to pass up directly through the space between the plastering and the wall, and from thence by free communication into the parlors, through the casings of the folding-doors. It was not until near the end of December that the *fons et origo* of all this evil was discovered.

This narrative I regard as highly instructive, as illustrating the influence of sewer gas in producing disease, and also the difficulties that beset all such examinations, mainly in consequence of the gross incompetence of mechanics whom we are compelled to employ.

But the interest of this recital does not cease here. In the spring of the

same year the family of Mr. B. removed to another house. The children, who had been previously delicate, and especially prone to gastric derangements, have since enjoyed perfect health. The health of Mrs. B. has remained delicate in consequence of chronic endometritis. On the 16th of January, 1875, she was seized with a sharp attack of metritis a few days subsequent to the menstrual period, which lasted a week, and on the 14th of February, at a corresponding date, there occurred a well-developed attack of metro-peritonitis, but little inferior in severity to that occurring a little over a year before. From this attack she had a long and tedious convalescence. As she began to recover, it came to my knowledge that during the previous extremely cold weather the waste-pipe leading from the water-closet adjoining her sleeping-room had, a few days before, been found completely blocked up by ice. There is no doubt that this accident occurred early, and that the atmosphere of this lady's apartment had been contaminated for some weeks by noxious exhalations unperceived by the senses.

Doubtless, in this particular instance a peculiar susceptibility to such influences may exist; but it does not seem to me to admit of any reasonable question that the attacks here described were due to the direct action of the poisonous exhalations from the obstructed drains. If the uterus may be the subject of congestive hypertrophy that can be measured by the sound, under the action of malaria, I see no reason why it may not, with its investing peritoneum, become the subject of inflammation from the exhalations of defective drains. In the present instance the convalescence of Mrs. B. was characterized by acute neuralgic pains, apparently located in the peritoneum.

It is not many years since the wife of a well-known professional gentleman of New York died under my care. She had acute metritis, coming on with no exciting cause, so far as could then be ascertained; but from the first there was a depression about her that was unaccountable. To myself, as well as to Dr. Barker, of New York, who saw her with me, her aspect and condition were suggestive of blood-poisoning. There was more or less evidence of the inflammation extending to the peritoneum also. After her decease I learned that the family, who had just removed for the summer from the city, had occupied one of a block of houses in a fashionable part of the city. The street sewer opened into the North River, above low-water mark, and consequently when the wind blew from a westerly quarter, at low tide, the poisonous gases were driven back, and diffused throughout the interior of dwellings connected with it by drains. This had often been a subject of observation in the neighborhood, as well as in the house in which this family resided, and there is no doubt that here was the direct cause of the deadly attack in the instance referred to.

This and the preceding case seem to show conclusively that metritis and metro-peritonitis may directly result from poisoning of the atmosphere by sewer gas, while the first case illustrates the variety of disorders that may be simultaneously excited in different members of a family by this cause.

The extreme difficulty at times of demonstrating the source of these exhalations, even when recognized as offensive, and especially when only suspected, ought to be impressed upon the mind of every practitioner. This arises mainly from the shameful incompetency of most workmen upon whom we are obliged to depend. As an instance of this, in a certain dwelling-house, with "modern conveniences," the family for years past have suffered annoyance from what was regarded as "rats in the wall." Much money and labor had been expended in tearing up floors and breaking through walls. In the mean time one member of the family died of a fever, which conformed to no particular type, but was characterized by typhoidal depression. During the last year my attention was called to these facts, and I insisted upon a new and thorough examination of the drain-pipes, and of the soil in their vicinity. This was done in an apparently thorough manner by men regarded as competent, but the evil continued. In the hall and certain rooms the atmosphere was often oppressively offensive. Quite recently the house, on passing into the hands of a new party, has been thoroughly overhauled, and new drain-pipes introduced. During the progress of this work the original drain-pipe was found to have parted just under the wall of the cellar, and thus free access of the gases was permitted to the entire space between the plastering and wall of the house.

I have known several instances in which, from the overflow of cess-pools, and sometimes from the deliberate act of indolent and unprincipled domestics, the soil beneath the floor of the kitchen or laundry has become saturated with drain-water. In one instance in which this had occurred, there were two deaths from fever of a typhoid character, and such fevers are of extremely rare occurrence in this vicinity.

It is plainly the duty of the family physician, as occasion offers, to remind those under his charge of this deceitful source of disease, and of the necessity of personal watchfulness over the sanitary condition of their homes.

In this connection it is of interest to note that diphtheria is now prevailing in this immediate vicinity, and has proved very fatal, and that, so far as can be ascertained, it is confined almost entirely to two streets, in which the gutters are notoriously filthy, and that not a case has thus far occurred on the streets in which attention is paid to cleanliness.

Means of rendering Healthy Workshops where Phosphorus is manipulated.

The Fourth International Medical Congress, held at Brussels in 1875, adopted the following conclusions on this subject, as recommended by the Section on Public Health:—

1. The Section on Public Health proclaims its decision that the employment of red amorphous phosphorus should be substituted for ordinary phosphorus in all match factories.

2. Until the universal adoption of this medical measure it recommends in the process of manipulation, the following measures which are designed to prevent general poisoning and more especially necrosis of the jaw; the establishment of the factories in sufficiently spacious localities; powerful ventilation by means of pipes running along the ground and connecting with a chimney with an upward current; constant attention to cleanliness. By the side of these physical means of preservation arranges itself the employment in the workshops as a chemical antidote of the essence of turpentine.

3. The local symptoms can be relieved by astringent gargles, and above all by the obligation imposed upon manufacturers of not even admitting into their factories workmen in whom a previous examination of the mouth proves that the dental apparatus is affected with penetrating caries, or any other affection of a nature to favour the noxious action of phosphorus vapour.

4. Children ought not to be employed in factories where phosphorus is manipulated.

5. When the authorities permit the establishment of factories where this substance is worked, they should impose these conditions, and see that they are fulfilled, as well in the interest of the workmen as in that of the manufacturers, who are legally responsible for accidents due to their carelessness or to their negligence.—*Gaz. Hebdom.*, Oct. 1, 1875.

Lying-in Hospitals.

At the general meeting of the International Medical Congress held in Brussels in September last, the following expression of opinion concerning lying-in charities was adopted, as recommended by the Section on Midwifery:—

1. The urgency of radical reform in the system of lying in relief.

2. Complete abandonment of large lying-in hospitals.

3. The substitution of small houses with separate chambers for lying-in.

4. The establishment in the neighbourhood of the lying-in hospitals of a house of reserve with a separate medical direction, and furniture.

5. As great an extension as possible of aid at the home of pregnant and lying-in women by furnishing every kind of assistance.

6. Lying-in at the homes of midwives at the expense and under the supervision of the management, affords the means of reducing the number of deliveries in lying-in hospitals, and of diminishing the mortality. This measure, which is desirable at all times, becomes a necessity during an epidemic.—*Gaz. Hebdom.*, Oct. 1, 1875.

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